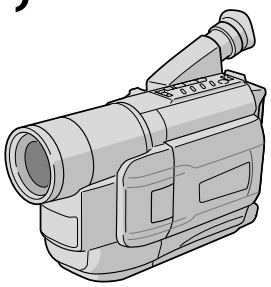
JVC

SERVICE MANUAL

COMPACT VHS CAMCORDER

GR-AXM236U,AXM240U,SXM240U SXM245U,SXM248U AXM341U,SXM540U,SXM745U



S-VHS C

Super VHS

Super VHS ET

Regarding service information other than these sections, refer to the GR-SXM340U and GR-SXM740U service manual (No. 86656). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-SXM745U)*

Camcorder

General

Format	: S-VHS/VHS NTSC standard
Power source	: DC 11 V ⎓ (Using AC Adapter) DC 6 V ⎓ (Using battery pack)
Power consumption	
Viewfinder on	: 4.0 W
LCD monitor on	: 4.5 W
Video light	: 3.0 W
Signal system	: NTSC-type
Video recording system	
Luminance	: FM recording
Color	: Converted sub-carrier direct recording Conforms to VHS standard
Cassette	: S-VHS C / VHS C cassette
Tape speed	
SP	: 33.35 mm/sec. (1-5/16 ips)
EP	: 11.12 mm/sec. (7/16 ips)
Recording time (max.)	
SP	: 40 minutes
EP	: 120 minutes (with TC-40 cassette)
Operating temperature	: 0°C to 40°C (32°F to 104°F)
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to 50°C (–4 °F to 122°F)
Weight	: Approx. 930 g (2.1 lbs)
Dimensions (W x H x D)	: 200 mm x 112 mm x 118 mm (7-7/8" x 4-7/16" x 4-11/16") (with the LCD monitor closed and with the viewfinder fully tilted downward)
Pickup	: 1/4" format CCD
Lens	: F1.6, f = 3.9 mm to 62.4 mm, 16:1 power zoom lens with auto iris and macro control, filter diameter 40.5 mm
Viewfinder	: Electronic viewfinder with 0.5" black/white CRT
White balance adjustment	: Auto/Manual adjustment
LCD monitor	: 3.5" diagonally measured, LCD panel/TFT active matrix system
Speaker	: Monaural

Connectors

Video	: 1 V (p-p), 75 Ω unbalanced, analog output (via Video output connector)
Audio	: 300 mV (rms), 1 kΩ analog output (via Audio output connector)
Digital	: ø3.5 mm, 4-pole, mini-head jack
S-Video	: **Y** : 1 V (p-p), 75 Ω, analog output **C** : 0.29 V (p-p), 75 Ω, analog output

AC Adapter

Power requirement	
U.S.A. and Canada	: AC 120 V∿, 60 Hz
Other countries	: AC 110 V to 240 V∿, 50 Hz/60 Hz
Output	: DC 11 V ⎓, 1 A

Optional Accessories

- **Battery Packs BN-V12U, BN-V20U, BN-V400U**
- **A/V (Audio/Video) Cable**
- **Compact S-VHS (S-VHS C) Cassettes ST-C-40/30/20**
- **Compact VHS (VHS C) Cassettes TC-40/30/20**
- **Active Carrying Bag CB-V7U**

Some accessories are not available in some areas. Please consult your nearest JVC dealer for details on accessories and their availability.

Specifications shown are for SP mode unless otherwise indicated.
E & O.E. Design and specifications subject to change without notice.

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The following table indicate main different points between models GR-SXM340U, GR-AXM236UC, GR-AXM240UC, GR-SXM240U, GR-SXM245U, GR-SXM245UC and GR-SXM248UC.

ITEM \ MODEL	GR-SXM340U	GR-AXM236UC	GR-AXM240UC	GR-SXM240U	GR-SXM245U	GR-SXM245UC	GR-SXM248UC
BODY COLOR	METALLIC GRAY	MOLD BLACK	←	←	METALLIC GRAY	←	SILVER
DC LIGHT	Used	Not Used	Used	←	←	←	←
DIGITAL TERMINAL	Used	Not Used	←	←	←	←	←

The following table indicate main different points between models GR-SXM740U, GR-AXM341U, GR-SXM540UC and GR-SXM745U.

ITEM \ MODEL	GR-SXM740U	GR-AXM341U	GR-SXM540UC	GR-SXM745U
LCD MONITOR	3.5”	3”	←	3.5”
BODY COLOR	SILVER	MOLD BLACK	SILVER	←
DIGITAL TERMINAL	Used	Not Used	Used	←
REMOTE CONTROL UNIT	Not Used	←	←	RM-V715U

The following table indicate different parts number between models GR-SXM340U,GR-AXM236UC,GR-AXM240UC, GR-SXM240U,GR-SXM245U,GR-SXM245UC and GR-SXM248UC.

PACKING AND ACCESSORY ASSEMBLY <M1> Note: As for IB (INSTRUCTIONS), refer to sec.5.

⚠ REF. No.	ITEM \ MODEL	GR-SXM340U	GR-AXM236UC	GR-AXM240UC	GR-SXM240U	GR-SXM245U	GR-SXM245UC	GR-SXM248UC
1	PACKING CASE	LY32545-001B	LY32545-003A	←	LY32545-002A	←	←	←
6	REGIST.CARD	BT-51028-1	—	—	BT-51028-1	←	—	—
7	WARRANTY INF.	BT-51005-5	—	—	BT-51005-5	←	—	—
9	SHEET(AGREMENT)	LYT0934-001A	—	—	—	—	—	—
17	WARRANTY CARD	—	BT-52004-2	←	—	—	BT-52004-2	←
18	SER.NET CARD	—	BT-20071B	←	—	—	BT-20071B	←
32	PC CONNECTION CABLE	QAM0384-001	—	—	—	—	—	—
33	CORE FILTER	QQR1266-001	—	—	—	—	—	—
34	CD ROM ASSY	LY32210-020B	—	—	—	—	—	—
36	SHEET(ATT.)	LYT0974-001A	—	—	—	—	—	—

FINAL ASSEMBLY <M2>

⚠ REF. No.	ITEM \ MODEL	GR-SXM340U	GR-AXM236UC	GR-AXM240UC	GR-SXM240U	GR-SXM245U	GR-SXM245UC	GR-SXM248UC
101	CASSETTE COVER(M)ASSY	LY20694-012A	LY20694-010A	←	←	LY20694-012A	←	LY20694-011A
103	UPPER CASE(M)	LY10257-054A	LY10257-062A	LY10257-051A	LY10257-069A	LY10257-063A	←	LY10257-072A
110	LOWER CASE ASSY	LY20684-023A	LY20684-005A	←	LY20684-022A	←	←	←
125	TOP OPE UNIT	LY20614-012C	LY20614-004C	LY20614-010C	←	LY20614-020B	←	LY20614-001C
130	REAR UNIT	LY20615-007B	LY20615-005E	←	←	←	←	←
135	FRONT COVER ASSY	LY20683-036A	LY20683-038A	LY20683-034A	←	LY20683-039A	←	LY20683-054A
135F	DC LIGHT/COVER(LIGHT)	LY32040-001A	LY30934-017A	LY32040-001A	←	←	←	←
135G	STICKER(A)	LY32058-002A	LY32058-001A	LY32058-002A	←	←	←	←
135H	STICKER(C)	LY32060-003A	LY32060-005A	←	←	←	←	←
135J	SPACER(A)	LY30029-0B4A	—	LY30029-0B4A	←	←	←	←
135K	CAUTION LABEL	YQ44341-6	—	YQ44341-6	←	←	←	←
139	SCREW	—	*QYSPSTU1725M	* ←	* ←	* ←	* ←	* ←
140	FRAME ASSY	LY20832-001B	LY20832-002B	LY20832-001B	←	←	←	←
140E	CONTACT(LIGHT),X2	YQ43810-1-1	—	YQ43810-1-1	←	←	←	←
140F	E-SI C WIRE C-F	WJM0259-001A	—	WJM0259-001A	←	←	←	←
142	SCREW	QYSPSPU1720Z(,X2)	*QYSPSPU1720Z(,X1)	* ←	* ←	* ←	* ←	* ←

Notes : Mark ← is same as left.
Mark — is not used.
Mark * reference model was also changed.

MECHANISM ASSEMBLY <M3>

⚠ REF. No.	ITEM / MODEL	GR-SXM340U	GR-AXM236UC	GR-AXM240UC	GR-SXM240U	GR-SXM245U	GR-SXM245UC	GR-SXM248UC
400	MECHA(B)ASSY	YMA0034A-E	YMA0033A-E	←	YMA0034A-E	←	←	←
406	CASSETTE GUIDE ASSY(RIGHT)	YQ44339A-7	—	—	YQ44339A-7	←	←	←
406A	SW.LEVER(RIGHT)	YQ32162-1-3	—	—	YQ32162-1-3	←	←	←
406B	TORSION SPRING	YQ44340-1-4	—	—	YQ44340-1-4	←	←	←
407	SCREW	LY42819-001A	—	—	LY42819-001A	←	←	←
466	ROTARY ENCODER	QSW0888-002	QSW0888-001	←	QSW0888-002	←	←	←

MONITOR ASSEMBLY <M5>

⚠ REF. No.	ITEM / MODEL	GR-SXM340U	GR-AXM236UC	GR-AXM240UC	GR-SXM240U	GR-SXM245U	GR-SXM245UC	GR-SXM248UC
⚠500	MONITOR ASSY	LY20836-005A	LY20836-006A	←	LY20836-016A	LY20836-005A	←	LY20836-021A
⚠501	MONITOR COVER ASSY	LY20834-004A	LY20834-005A	←	LY20834-009A	LY20834-004A	←	LY20834-007A
501A	PLATE(WINDOW)	LY32329-002A	LY32329-001A	←	LY32329-002A	←	←	←
501B	STICKER(B)	LY32554-003A	LY32554-004A	←	LY32554-003A	←	←	←
505	HINGE COVER(UPPER)	LY31939-004A	LY31939-003A	←	←	LY31939-004A	←	LY31939-001A

MAIN BOARD ASSEMBLY <01>

⚠ REF. No.	ITEM / MODEL	GR-SXM340U	GR-AXM236UC	GR-AXM240UC	GR-SXM240U	GR-SXM245U	GR-SXM245UC	GR-SXM248UC
PW1	MAIN BOARD ASSY	YB10356UB1-01	YB10356UI1-01	YB10356UA1-01	YB10356U01-01	←	←	←
IC105	IC(DIGITAL)	TC7S66FU-X	—	—	—	—	—	—
IC4002	IC	Z4C2973-32-X	—	—	—	—	—	—
IC4701	IC	—	MM1512XN-X	←	—	—	—	—
IC4702	IC	BA7665FS	—	—	BA7665FS	←	←	←
IC8001	IC	MAX3221CAE	—	—	—	—	—	—
Q3505	TRANSISTOR	DTC144EE	—	—	DTC144EE	←	←	←
Q4001	TRANSISTOR	DTC144EE	—	—	DTC144EE	←	←	←
Q6306	MOS FET	SSM3K02F	—	SSM3K02F	←	←	←	←
D4001	DIODE	DAN222	—	—	DAN222	←	←	←
D8001	ZENER DIODE	EMZ6.8N	—	—	—	—	—	—
D8002	ZENER DIODE	EMZ6.8N	—	—	—	—	—	—
R182	MG RESISTOR	NRSA63J-105X	—	—	—	—	—	—
R4013	MG RESISTOR	NRSA63J-102X	—	—	—	—	—	—
R4014	MG RESISTOR	NRSA63J-103X	—	—	NRSA63J-103X	←	←	←
R4712	MG RESISTOR	NRSA63D-680X	—	—	NRSA63D-680X	←	←	←
R4713	MG RESISTOR	NRSA63D-680X	—	—	NRSA63D-680X	←	←	←
R6306	MG RESISTOR	NRS12BK-R47W	—	NRS12BK-R47W	NRS12BK-R47W	←	←	←
R6307	MG RESISTOR	NRSA63J-104X	—	NRSA63J-104X	NRSA63J-104X	←	←	←
R8001	MG RESISTOR	NRSA63J-331X	—	—	—	—	—	—
R8002	MG RESISTOR	NRSA63J-0R0X	—	—	—	—	—	—
R8003	MG RESISTOR	NRSA63J-0R0X	—	—	—	—	—	—
C144	CAPACITOR	—	NDC31HJ-101X	←	←	←	←	←
C4006	CAPACITOR	—	NDC31HJ-100X	←	←	←	←	←
C4024	CAPACITOR	NCF31EZ-104X	—	—	—	—	—	—
C4025	CAPACITOR	NCB31CK-104X	—	—	NCB31CK-104X	←	←	←
C4044	CAPACITOR	NCB30JK-105X	—	—	—	—	—	—
C4713	E CAPACITOR	NEA70JM-226X	—	—	NEA70JM-226X	←	←	←
C4714	E CAPACITOR	NEA70GM-107X	—	—	NEA70GM-107X	←	←	←
C4715	CAPACITOR	NCB31EK-103X	—	—	NCB31EK-103X	←	←	←
C6307	E CAPACITOR	NEA71CM-106X	—	NEA71CM-106X	←	←	←	←
C8001	CAPACITOR	NCF31EZ-104X	—	—	—	—	—	—
C8002	CAPACITOR	NCF31EZ-104X	—	—	—	—	—	—
C8003	CAPACITOR	NCF31EZ-104X	—	—	—	—	—	—
C8004	CAPACITOR	NCF31EZ-104X	—	—	—	—	—	—
C8005	CAPACITOR	NBE20JM-106X	—	—	—	—	—	—
C8006	CAPACITOR	NCF31EZ-104X	—	—	—	—	—	—
L501	MG RESISTOR	NRSA63J-0R0X	—	—	—	—	—	—
L2001	COIL	NQL144K-470X	NQL144K-101X	NQL144K-470X	←	←	←	←
L8001	COIL	NQL365K-220X	—	—	—	—	—	—
J505	S JACK	QND0068-001	—	—	QND0068-001	←	←	←
CN6	CONNECTOR	QGA1201C2-02X	—	QGA1201C2-02X	←	←	←	←

Notes : Mark ← is same as left.
Mark — is not used.

The following table indicate different parts number between models GR-SXM740U, GR-AXM341U, GR-SXM540UC and GR-SXM745U.

PACKING AND ACCESSORY ASSEMBLY <M1> Note: As for IB (INSTRUCTIONS), refer to sec.5.

⚠ REF. No.	ITEM / MODEL	GR-SXM740U	GR-AXM341U	GR-SXM540UC	GR-SXM745U
1	PACKING CASE	LY32545-006B	LY32545-003A	LY32545-001B	LY32545-006B
6	REGIST CARD	BT-51028-1	←	—	BT-51028-1
7	WARRANTY INF.	BT-51005-5	←	—	BT-51005-5
9	SHEET(AGREMENT)	LYT0934-001A	—	LYT0934-001A	←
17	WARRANTY CARD	—	—	BT-52004-2	—
18	SER.NET CARD	—	—	BT-20071B	—
19	REMOTE CONTROL UNIT	—	—	—	LY42129-001A
20	BATTERY,X2	—	—	—	AAA(R03)
32	PC CONNECTION CABLE	QAM0384-001	—	QAM0384-001	←
33	CORE FILTER	QQR1266-001	—	QQR1266-001	←
34	CD ROM ASSY	LY32210-020B	—	LY32210-020B	←
36	SHEET(ATT.)	LYT0974-001A	—	LYT0974-001A	←

FINAL ASSEMBLY <M2>

⚠ REF. No.	ITEM / MODEL	GR-SXM740U	GR-AXM341U	GR-SXM540UC	GR-SXM745U
101	CASSETTE COVER(M)ASSY	LY20815-001A	LY20694-010A	LY20694-011A	LY20815-001B
103	UPPER CASE(M)	LY10257-056A	LY10257-050A	LY10257-052A	LY10257-070A
110	LOWER CASE ASSY	LY20684-023A	LY20684-005A	LY20684-023A	←
125	TOP OPE UNIT	LY20614-009C	LY20614-010C	LY20614-009C	←
130	REAR UNIT	LY20764-010A	LY20615-005E	LY20615-007B	LY20764-010A
135	FRONT COVER ASSY	LY20683-035A	LY20683-034A	LY20683-035A	←
135G	STICKER(A)	LY32058-003A	LY32058-002A	LY32058-003A	←
135H	STICKER(C)	LY32060-003A	LY32060-005A	LY32060-003A	←
139	SCREW	QYSPSPU1720Z(,X2)	*QYSPSPU1720Z(,X1)	* ←	* ←
142	SCREW	—	*QYSPSTU1725M	* ←	* ←

MECHANISM ASSEMBLY <M3>

⚠ REF. No.	ITEM / MODEL	GR-SXM740U	GR-AXM341U	GR-SXM540UC	GR-SXM745U
400	MECHA(B)ASSY	YMA0034A-E	YMA0033A-E	YMA0034A-E	←
406	CASSETTE GUIDE ASSY(RIGHT)	YQ44339A-7	—	YQ44339A-7	←
406A	SW.LEVER(RIGHT)	YQ32162-1-3	—	YQ32162-1-3	←
406B	TORSION SPRING	YQ44340-1-4	—	YQ44340-1-4	←
407	SCREW	LY42819-001A	—	LY42819-001A	←
466	ROTARY ENCODER	QSW0888-002	QSW0888-001	QSW0888-002	←

MONITOR ASSEMBLY <M5>

⚠ REF. No.	ITEM / MODEL	GR-SXM740U	GR-AXM341U	GR-SXM540UC	GR-SXM745U
⚠500	MONITOR ASSY	LY20836-007A	LY20836-012A	LY20836-010A	LY20836-007A
⚠501	MONITOR COVER ASSY	LY20816-001A	LY20834-005A	LY20834-007A	LY20816-001A
501A	PLATE(WINDOW)	LY32329-002A	LY32329-001A	LY32329-002A	←
501B	STICKER(B)	LY32554-003A	LY32554-004A	LY32554-003A	←
501C	SPACER(A)	—	LY30029-0R3A	←	—
501D	SPACER(A)	—	LY30029-0R4A	←	—
502	MONITOR CASE ASSY	LY32544-001A	LY32035-001A	←	LY32544-001A
504	SHIELD CASE	LY32334-001A	LY32332-001A	←	LY32334-001A
505	HINGE COVER(UPPER)	LY31939-001A	LY31939-003A	LY31939-001A	←
518	LCD MODULE	QLD0212-001	QLD0213-001	←	QLD0212-001
519	LIGHT SCREEN	—	LY43391-001A	←	—
520	LAMP	—	QLL0111-001	←	—
521	HOLDER,X2	—	LY43394-001A	←	—
522	SHEET	—	LY43395-001A	←	—
523	DIFFUSION SHEET(3)	—	LY43363-001A	←	—
528	LCD FRAME	LY32335-001A	LY32333-001A	←	LY32335-001A
530	BACK LIGHT	QLL0113-001	—	—	QLL0113-001

Notes : Mark ← is same as left.
Mark — is not used.
Mark * reference model was also changed.

MAIN BOARD ASSEMBLY <01>

⚠ REF. No.	ITEM / MODEL	GR-SXM740U	GR-AXM341U	GR-SXM540UC	GR-SXM745U
PW1	MAIN BOARD ASSY	YB10356-UK1-01	YB10356-UJ1-01	YB10356-UK1-01	YB10356UC1-01
IC105	IC(DIGITAL)	TC7S66FU-X	—	TC7S66FU-X	←
IC1801	IR DETECT UNIT	—	—	—	PIC-26043S
IC4002	IC	Z4C2973-32-X	—	Z4C2973-32-X	←
IC4701	IC	—	MM1512XN-X	—	—
IC4702	IC	BA7665FS	—	BA7665FS	←
IC8001	IC	MAX3221CAE	—	MAX3221CAE	←
Q3505	TRANSISTOR	DTC144EE	—	DTC144EE	←
Q4001	TRANSISTOR	DTC144EE	—	DTC144EE	←
D4001	DIODE	DAN222	—	DAN222	←
D8001	ZENER DIODE	EMZ6.8N	—	EMZ6.8N	←
D8002	ZENER DIODE	EMZ6.8N	—	EMZ6.8N	←
R182	MG RESISTOR	NRSA63J-105X	—	NRSA63J-105X	←
R4013	MG RESISTOR	NRSA63J-102X	—	NRSA63J-102X	←
R4014	MG RESISTOR	NRSA63J-103X	—	NRSA63J-103X	←
R4712	MG RESISTOR	NRSA63D-680X	—	NRSA63D-680X	←
R4713	MG RESISTOR	NRSA63D-680X	—	NRSA63D-680X	←
R8001	MG RESISTOR	NRSA63J-331X	—	NRSA63J-331X	←
R8002	MG RESISTOR	NRSA63J-0R0X	—	NRSA63J-0R0X	←
R8003	MG RESISTOR	NRSA63J-0R0X	—	NRSA63J-0R0X	←
C144	CAPACITOR	—	NDC31HJ-101X	←	←
C4006	CAPACITOR	—	NDC31HJ-100X	—	—
C4024	CAPACITOR	NCF31EZ-104X	—	NCF31EZ-104X	←
C4025	CAPACITOR	NCB31CK-104X	—	NCB31CK-104X	←
C4044	CAPACITOR	NCB30JK-105X	—	NCB30JK-105X	←
C4713	E CAPACITOR	NEA70JM-226X	—	NEA70JM-226X	←
C4714	E CAPACITOR	NEA70GM-107X	—	NEA70GM-107X	←
C4715	CAPACITOR	NCB31EK-103X	—	NCB31EK-103X	←
C8001	CAPACITOR	NCF31EZ-104X	—	NCF31EZ-104X	←
C8002	CAPACITOR	NCF31EZ-104X	—	NCF31EZ-104X	←
C8003	CAPACITOR	NCF31EZ-104X	—	NCF31EZ-104X	←
C8004	CAPACITOR	NCF31EZ-104X	—	NCF31EZ-104X	←
C8005	CAPACITOR	NBE20JM-106X	—	NBE20JM-106X	←
C8006	CAPACITOR	NCF31EZ-104X	—	NCF31EZ-104X	←
L501	MG RESISTOR	NRSA63J-0R0X	—	NRSA63J-0R0X	←
L8001	COIL	NQL365K-220X	—	NQL365K-220X	←
J505	S JACK	QND0068-001	—	QND0068-001	←

MONITOR BOARD ASSEMBLY <07>

⚠ REF. No.	ITEM / MODEL	GR-SXM740U	GR-AXM341U	GR-SXM540UC	GR-SXM745U
PW	MONITOR BOARD ASSY	YB20913F	YB20913E	←	YB20913F
Q7607	TRANSISTOR	DTC144EE	—	—	DTC144EE
R7622	MG RESISTOR	NRSA63J-0R0X	—	—	NRSA63J-0R0X
R7647	MG RESISTOR	—	NRSA63J-0R0X	←	—
R7648	MG RESISTOR	NRSA63J-103X	—	—	NRSA63J-103X
R7649	MG RESISTOR	—	NRSA63J-333X	←	—
R7650	MG RESISTOR	NRSA63J-103X	—	—	NRSA63J-103X

Notes : Mark ← is same as left.
Mark — is not used.

[redacted]

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JVC

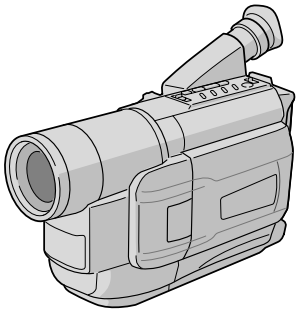
S40895-04

Printed in Japan

COMPACT VHS CAMCORDER

JVC

GR-SXM745



S-VHS C
Super VHS
Super VHS ET

For Customer Use:
Enter below the Model No. and Serial No. which is located on the bottom of the camcorder. Retain this information for future reference.

Model No.

Serial No.

U Printed in Malaysia
1101MKV✻UN✻PJ

COPYRIGHT© 2001 VICTOR COMPANY OF JAPAN, LTD

Dear Customer,
Thank you for purchasing the JVC Compact VHS camcorder. Before use, please read "PRECAUTIONS" (☞ pg. 3, 4) to ensure safe use of this product.

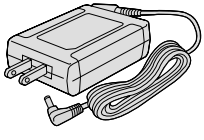
AUTOMATIC DEMONSTRATION

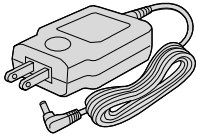
Automatic Demonstration takes place when "DEMO MODE" is set to "ON" (factory-preset).

- Available when the Power Switch ⓬ is set to "A" or "M".
- Performing any operation during the demonstration stops the demonstration temporarily. If no operation is performed for more than 1 minute after that, the demonstration will resume.
- "DEMO MODE" remains "ON" even if the camcorder power is turned off.
- To cancel Automatic Demonstration, set the Power Switch ⓬ to "M" and press the MENU Wheel ❶ in while the demo is in progress. This takes you directly to the demo mode's Setting Menu (so you will not have to go through the main Menu Screen). Rotate the MENU Wheel ❶ to select "OFF" and press it.

NOTES:
- When a tape whose Erase Protection tab is in the position that allows recording is loaded in the camcorder, demonstration is not available.
- If you do not detach the Lens Cap, you cannot see the actual changes of the Automatic Demonstration activated on the LCD monitor or viewfinder.

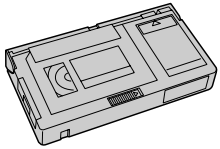
PROVIDED ACCESSORIES



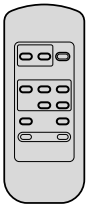


• AC Adapter

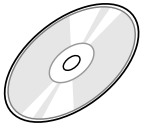
AP-V12U, AP-V11U or AP-V10U



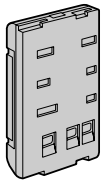
• Cassette Adapter C-P7U



• Remote Control Unit RM-V715U

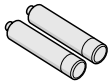


• CD-ROM



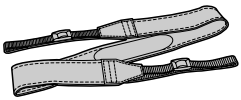
• Battery Pack BN-V11U

• Lens Cap



• AAA (R03) Battery x 2 (for Remote Control Unit)

• AA (R6) Battery (for Cassette Adapter)



• Shoulder Strap

• PC Connection Cable

NOTE:
In order to maintain optimum performance of the camcorder, provided cables may be equipped with one or more core filter. If a cable has only one core filter, the end that is closest to the filter should be connected to the camcorder.

PRECAUTIONS

SAFETY PRECAUTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

CAUTIONS

- This camcorder is designed to be used with NTSC-type color television signals. It cannot be used for playback with a television of a different standard. However, live recording and LCD monitor/viewfinder playback are possible anywhere.
- Use the JVC BN-V11U/V12U/V20U/V400U battery packs and, to recharge them or to supply power to the camcorder from an AC outlet, use the provided multi-voltage AC Adapter. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

NOTES:

- The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.
- The rating information and safety caution of the AC Adapter are on its upper and lower sides.

ATTENTION:

The product that you have purchased is powered by a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

S-VHS C VHS C HQ

Cassettes marked S-VHS C and VHS C can be used used with this camcorder.

The EPA certified RBRC® Battery Recycling Seal on the nickel-cadmium (Ni-Cd) battery indicates JVC is voluntarily participating in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States. The RBRC® program provides a convenient alternative to placing used Ni-Cd batteries into the trash or the municipal waste stream, which may be illegal in your area. Please call 1-800-8-BATTERY™ for information on Ni-Cd battery recycling and disposal bans/restrictions in your area. JVC's involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.

When the equipment is installed in a cabinet or on a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm (3-15/16") or more on both sides, on top and at the rear).

Do not block the ventilation holes.
(If the ventilation holes are blocked by a newspaper, or cloth etc. the heat may not be able to get out.)

No naked flame sources, such as lighted candles, should be placed on the apparatus.

When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

The apparatus shall not be exposed to dripping or splashing.

Do not use this equipment in a bathroom or places with water.
Also do not place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups etc.) on top of this unit.
(If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

IMPORTANT SAFETY INSTRUCTIONS

(1) Read these instructions.

(2) Keep these instructions.

(3) Heed all warnings.

(4) Follow all instructions.

(5) Do not use this apparatus near water.

(6) Clean only with dry cloth.

(7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

(8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

(9) Only use attachments/accessories specified by the manufacturer.

(10) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

(11) Unplug this apparatus during lightning storms or when unused for long periods of time.

(12) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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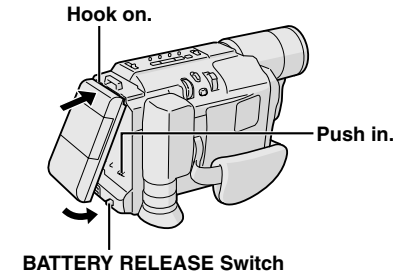
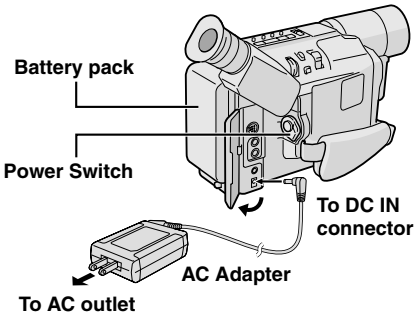




CHARGING THE BATTERY PACK

1) Hook the end of the battery pack to the camcorder and push the battery in until it locks in place.

• If the battery pack is attached in the wrong position, a malfunction may occur.

2) Set the Power Switch ⓬ to "OFF". Connect the AC Adapter to the DC IN connector ❾.

3) Plug the AC Adapter into an AC outlet. The CHARGE lamp ⓲ blinks to indicate charging has started.

4) When the CHARGE lamp ⓲ stops blinking but stays lit, charging is finished. Unplug the AC Adapter from the AC outlet. Disconnect the AC Adapter from the camcorder.

To Detach The Battery Pack . . .

... slide BATTERY RELEASE ❽ and pull out the battery pack.

Battery pack	Charging time
BN-V11U	approx. 1 hr. 30 min.
BN-V12U (optional)	approx. 1 hr. 30 min.
BN-V20U (optional)	approx. 2 hrs. 20 min.
BN-V400U (optional)	approx. 4 hrs. 30 min.

Charging times are for a fully discharged battery pack.

USING THE BATTERY PACK

Perform step **1)** of "CHARGING THE BATTERY PACK".

Approximate recording time (unit: min.)

Battery pack	Viewfinder on	LCD monitor on
BN-V11U	95 (50)	80 (45)
BN-V12U (optional)	95 (50)	80 (45)
BN-V20U (optional)	150 (85)	135 (75)
BN-V400U (optional)	360 (205)	315 (190)

( ): when the video light is on

USING AC POWER

Connect the AC Adapter to the camcorder (☞ step **2)** and **3)** of "CHARGING THE BATTERY PACK").

• The provided AC Adapter features automatic voltage selection in the AC range from 110 V to 240 V.

ATTENTION

Before detaching the power source, make sure that the camcorder's power is turned off. Failure to do so can result in a camcorder malfunction.

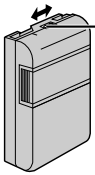
REFRESH:

Be sure to fully discharge a battery pack before recharging or storing it for a long period of time, otherwise the battery performance will be reduced.

1) Perform steps **1)** through **3)** of "CHARGING THE BATTERY PACK".

2) Press REFRESH ㉔ for over 2 seconds. The REFRESH lamp ⓳ blinks to indicate discharging has started.

3) When discharging is finished, charging automatically starts and the CHARGE lamp ⓲ blinks.



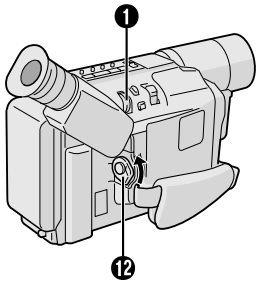
Charge marker helps you remember whether the battery pack has been charged or not. Two colors are provided (red and black)—you choose which one means charged and which means discharged.

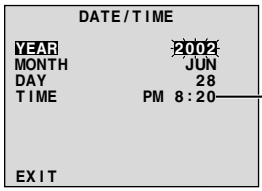
- During charging or discharging, the camcorder cannot be operated.
- Charging and discharging is not possible if the wrong type of battery is used.
- When charging the battery pack for the first time or after a long storage period, the CHARGE lamp ⑱ may not light. Remove the battery pack from the camcorder, then try charging again.
- If a fully-charged battery's operation time remains extremely short, the battery is worn out. Please purchase a new one.
- Perform charging where the temperature is between 10°C and 35°C (50°F and 95°F). 20°C to 25°C (68°F to 77°F) is the ideal temperature range for charging. If the environment is too cold, charging may be incomplete.
- Charging time varies according to the ambient temperature and the status of the battery pack.
- Since the AC Adapter processes electricity internally, it becomes warm during use. Be sure to use it only in well-ventilated areas.
- The following operation stops charging or discharging:
  - Set the Power Switch ⑫ to "PLAY", "A" or "M".
  - Disconnect the AC Adapter from the camcorder.
  - Unplug the AC Adapter from the AC outlet.
  - Detach the battery from the camcorder.
- Using the optional AA-V15 AC Power Adapter/ Charger, you can charge the BN-V11U/V12U/ V20U/V400U battery pack without the camcorder. However, it cannot be used as an AC adapter.
- To avoid interference with reception, do not use the AC Adapter near a radio.
- Recording time is reduced significantly when Zoom or Record-Standby mode is engaged repeatedly or the LCD monitor is used repeatedly.
- Before extended use, it is recommended that you prepare enough battery packs to cover 3 times the planned shooting time.

Date/Time Settings

1) Set the Power Switch ⑫ to "M".
2) Press the MENU Wheel ❶ in. The Menu Screen appears.
3) Rotate the MENU Wheel ❶ to select "►TO SYSTEM MENU" and press it to display SYSTEM MENU. Rotate the MENU Wheel ❶ to select "►NEXT" and press it to display the next page.
4) Rotate the MENU Wheel ❶ to select "DATE/ TIME" and press it. The DATE/TIME Menu appears.
5) To set "YEAR", "MONTH", "DAY" or "TIME" (hour/minute), rotate the MENU Wheel ❶ to select the desired item, and press it. When the setting begins blinking, rotate the MENU Wheel ❶ until the correct setting appears and then press it. The setting stops blinking.
6) When none of these settings ("YEAR", "MONTH", "DAY", "TIME") blinks, rotate the MENU Wheel ❶ to select "EXIT", and press it. The Menu Screen reappears with the highlight bar on "►RETURN".
7) Press the MENU Wheel ❶ in to close the Menu Screen.

- To display the date and time in the camcorder's display and on a connected TV, see DATE/TIME DISP. (☞ pg. 19) in CAMERA MENU.
- The date/time cannot be stored in memory if the built-in clock battery runs out. Consult an authorized JVC dealer for replacement, or set the date/time as necessary before you start shooting.

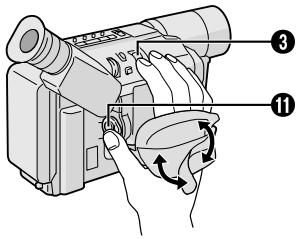




12-hour indication with AM or PM

Grip Adjustment

1) Separate the Velcro strip.
2) Pass your right hand through the loop and grasp the grip.
3) Adjust so that your thumb and fingers can easily operate the Recording Start/Stop Button ⓫ and Power Zoom Lever ❸. Refasten the Velcro strip.

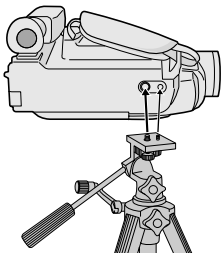


Tripod Mounting

Align the screw and camera direction stud on the tripod with the tripod mounting socket ㉜. Then tighten the screw.

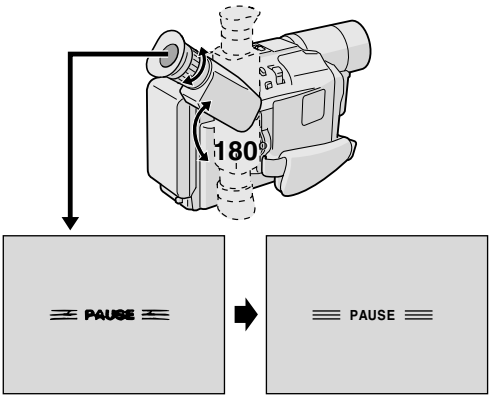
CAUTION

When using a tripod, be sure to open and extend its legs fully to stabilize the camcorder. To prevent damage to the unit caused by falling over, do not use a small-sized tripod.



Viewfinder Adjustment

1) Set the Power Switch ⓬ to "A" or "M".
2) Turn the Diopter Adjustment Control ㉙ until the indications in the viewfinder are clearly focused.



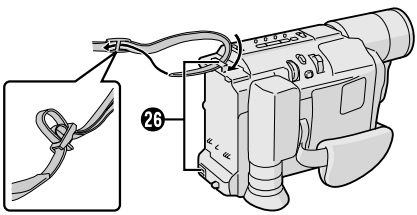
Loading/Unloading A Cassette

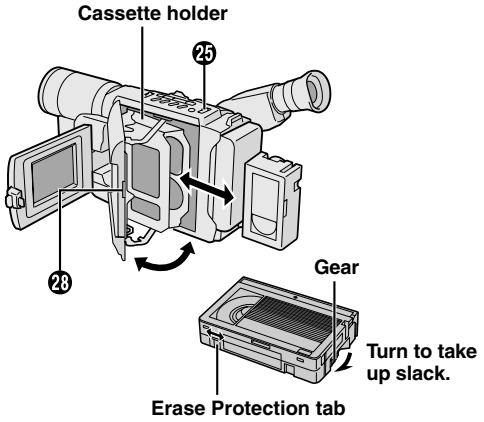
1) Open the LCD monitor fully. Slide EJECT ㉕ until the cassette holder opens. Do not use force to open.
2) Insert or remove a cassette. When inserting, make sure the label is facing outward. 21 appears when a cassette is loaded.
3) Press the Close button ㉘ to close the cassette holder until it locks into place. Close the LCD monitor.

- Closing the LCD monitor while the cassette holder is still open may cause damage to the LCD monitor.
- Make sure the erase protection tab is in the position that allows recording. If not, slide the tab. Some cassettes have removable tabs. If the tab has been removed, cover the hole with adhesive tape.
- The cassette holder cannot be opened while the camcorder is in the record mode or detached from the power source.

Shoulder Strap Attachment

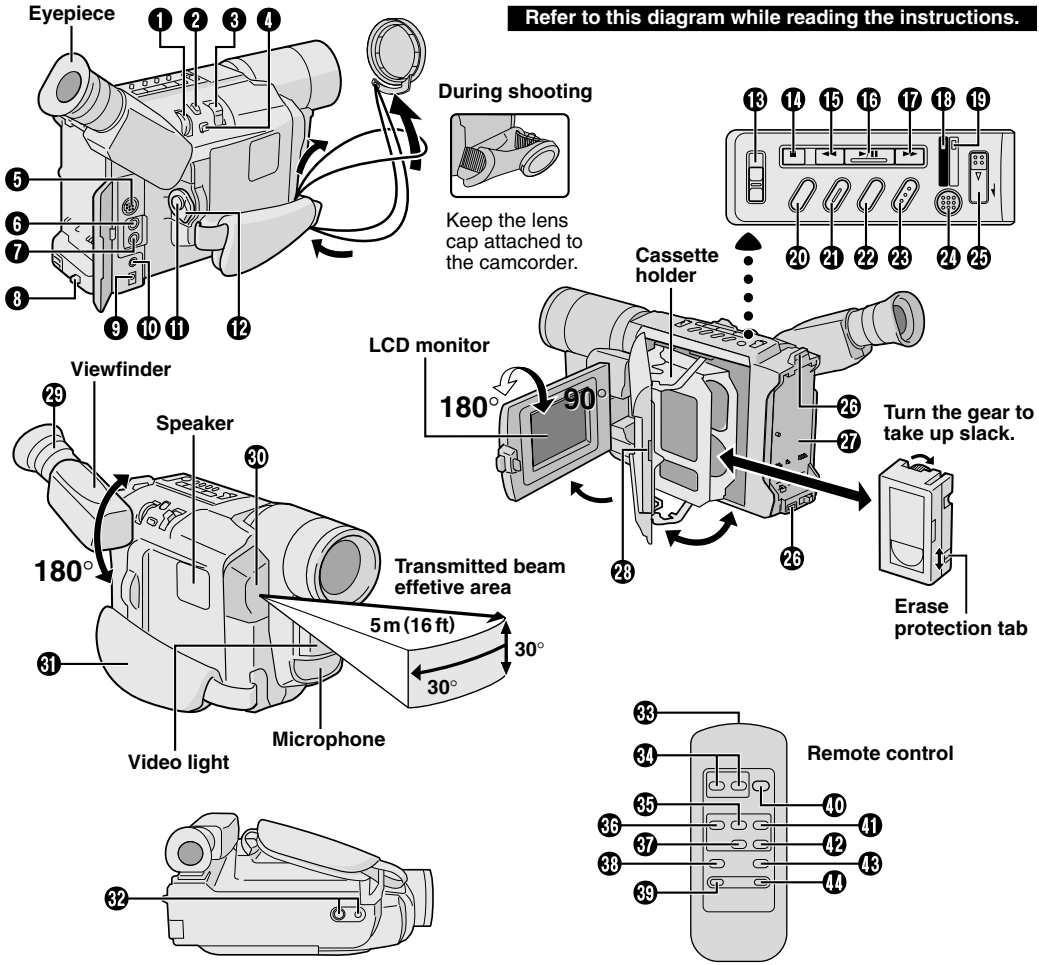
Thread the strap through the eyelet ㉖, then fold it back and thread it through the buckle. Repeat the procedure to attach the other end of the strap to the other eyelet ㉖, making sure the strap is not twisted. Adjust the length.





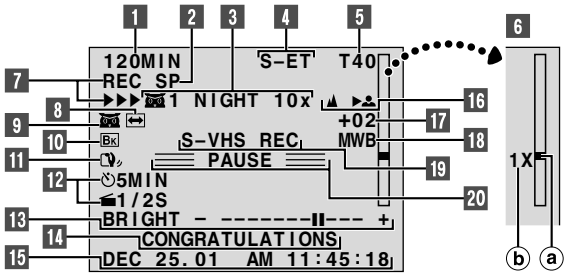
CONTROLS, CONNECTORS AND INDICATORS

Refer to this diagram while reading the instructions.

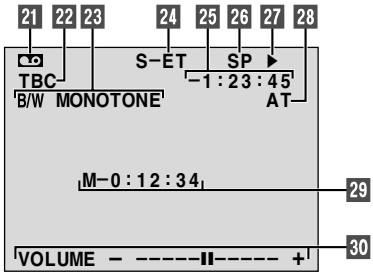


LCD Monitor/Viewfinder Indications

During Recording



During Playback



☞ pg. 25 for **Warning Indications** .

❶ • MENU Wheel [–, +] ..... ☞ pg. 18
• BRIGHT Wheel [–, +] ..... ☞ pg. 11
• TRACKING Wheel [–, +] ..... ☞ pg. 14

❷ Snapshot Button [SNAPSHOT] ..... ☞ pg. 12

❸ • Power Zoom Lever [T/W] ..... ☞ pg. 13
• Speaker Volume Control [VOL.] ..... ☞ pg. 11

❹ • Picture Stabilizer Button [P.STABILIZER] ..... ☞ pg. 12
• Time Base Corrector Button [TBC] ..... ☞ pg. 14

❺ S-Video Output Connectors [S] ..... ☞ pg. 15

❻ Audio Output Connector [A] ..... ☞ pg. 15

❼ Video Output Connector [V] ..... ☞ pg. 15

❽ Battery Release Switch [BATTERY RELEASE] ..... ☞ pg. 6

❾ DC IN Connector ..... ☞ pg. 6

❿ Digital Connector [DIGITAL]

⓫ Recording Start/Stop Button ..... ☞ pg. 11

⓬ Power Switch [PLAY, OFF, A, M] ..... ☞ pg. 11

⓭ Video Light Switch [LIGHT OFF/AUTO/ON] ..... ☞ pg. 13

⓮ Stop Button [STOP] ..... ☞ pg. 11

⓯ • Retake Rewind Button [RETAKE R] ..... ☞ pg. 13
• Quick Review Button [R] ..... ☞ pg. 13
• Rewind Button [R] ..... ☞ pg. 11

⓰ Play/Pause Button ..... ☞ pg. 11

⓱ • Retake Forward Button [RETAKE F] ..... ☞ pg. 13
• Fast-Forward Button [F] ..... ☞ pg. 11

⓲ CHARGE Lamp ..... ☞ pg. 6

⓳ POWER/REFRESH Lamp ..... ☞ pg. 6

⓴ • Fade/Wipe Button [FADE/WIPE] ..... ☞ pg. 22
• Counter Reset/Memory Button [COUNTER R/M] ..... ☞ pg. 14

㉑ Program AE Button [P.AE] ..... ☞ pg. 23

㉒ Digital Effect Button [DIGIFECT] ..... ☞ pg. 23

㉓ NIGHT-ALIVE Button ..... ☞ pg. 22

㉔ REFRESH Button ..... ☞ pg. 6

㉕ EJECT Switch ..... ☞ pg. 8

㉖ Shoulder Strap Eyelets ..... ☞ pg. 8

㉗ Battery Pack Mount ..... ☞ pg. 6

㉘ Close Button ..... ☞ pg. 8

㉙ Diopter Adjustment Control ..... ☞ pg. 8

㉚ • Camera Sensor
Be careful not to cover this area; a sensor necessary for shooting is built-in here.
• Remote Sensor ..... ☞ pg. 9, 17

㉛ Grip Strap ..... ☞ pg. 8

㉜ Tripod Mounting Socket ..... ☞ pg. 8

㉝ Infrared Beam Transmitting Window ..... ☞ pg. 9, 17

㉞ ZOOM (T/W) Buttons ..... ☞ pg. 13, 24

㉟ PLAY Button ..... ☞ pg. 11

㊱ REW Button (Functions the same as ⓯)

㊲ STOP Button (Functions the same as ⓮)

㊳ INSERT Button ..... ☞ pg. 24

㊴ • REC TIME Button ..... ☞ pg. 24
• ANIM. Button ..... ☞ pg. 24

㊵ START/STOP Button (Functions the same as ⓾)

㊶ FF Button (Functions the same as ⓱)

㊷ PAUSE Button ..... ☞ pg. 11

㊸ A.DUB Button ..... ☞ pg. 24

㊹ • INT.TIME Button ..... ☞ pg. 24
• SELF TIMER Button (non-functional)

1 Tape Remaining Time ..... ☞ pg. 21

2 Recording Mode Indicator ..... ☞ pg. 20

3 • Digital Effect Indicator ..... ☞ pg. 23
• Program AE Indicator ..... ☞ pg. 23
• Night-Alive Indicator ..... ☞ pg. 22
• Fade/Wipe-Standby Indicator ..... ☞ pg. 22

4 Recording Format Indicator (S/S-ET) ..... ☞ pg. 20

5 Tape Length Indicator ..... ☞ pg. 21

6 Zoom Indicator Bar ..... ☞ pg. 13
ⓐ Zoom Level Indicator
ⓑ Approximate Zoom Ratio

7 Recording Indicator ..... ☞ pg. 11

8 Digital Effect Indicator ..... ☞ pg. 23

9 • Program AE Indicator ..... ☞ pg. 23
• Night-Alive Indicator ..... ☞ pg. 22

10 Fade/Wipe-Standby Indicator ..... ☞ pg. 22

11 Picture Stabilizer Indicator ..... ☞ pg. 12

12 Interval Time/Recording Time Indicator ..... ☞ pg. 21

13 Bright Level Indicator ..... ☞ pg. 11

14 Instant Title Display ..... ☞ pg. 19

15 Date/Time Display ..... ☞ pg. 19

16 Focus Indicator ..... ☞ pg. 18

17 Exposure Control Level Counter ..... ☞ pg. 18

18 White Balance Mode Indicator ..... ☞ pg. 19

19 S-VHS/S-VHS ET Recording Indicator ..... ☞ pg. 20

20 Record-Standby Mode Indicator ..... ☞ pg. 11

21 • : Cassette Indicator ..... ☞ pg. 8
• : Insert Editing Indicator ..... ☞ pg. 24

22 TBC Indicator ..... ☞ pg. 14

23 Playback Special Effect Indicator ..... ☞ pg. 14

24 Recording Format Indicator (S/S-ET) ..... ☞ pg. 20

25 Tape Counter ..... ☞ pg. 14, 24

26 Recording Mode Indicator (SP/EP) ..... ☞ pg. 20

27 Tape Running Indicator
► : Playback
►► : Fast-Forward/Shuttle Search
◄◄ : Rewind/Shuttle Search
❚❚ : Pause
●► : Audio Dubbing

28 Tracking Indicator ..... ☞ pg. 14

29 Tape Counter ..... ☞ pg. 24

30 • BRIGHT: Bright Level Indicator ..... ☞ pg. 11
• VOLUME: Speaker Volume Indicator ..... ☞ pg. 11

RECORDING

Set REC MODE, S-VHS (S-VHS ET), TAPE LENGTH and DATE/TIME in SYSTEM MENU. (☞ pg. 18 – 21, “MENU SETTINGS”)

1 Remove the lens cap. Set the Power Switch ⑫ to “ A ” or “ M ”.
Shooting while using the viewfinder: Make sure the LCD monitor is closed and locked.
Shooting while using the LCD monitor: Make sure the LCD monitor is fully open.
The camcorder enters the Record-Standby mode and “PAUSE” 20 is displayed.

- If you tilt the LCD monitor upward to 180 degrees, the viewfinder switches back on and the monitored image can be viewed both on the LCD monitor and in the viewfinder, so the person you shoot can view himself/herself.

2 Press the Recording Start/Stop Button ⑪. REC ▶▶▶ 7 appears while recording is in progress.

- To stop recording, press the Recording Start/Stop Button ⑪. The camcorder re-enters the Record-Standby mode.

To Adjust The Brightness Of The LCD Monitor, rotate the BRIGHT Wheel ❶ until the bright level indiator 13 on the display moves and the appropriate brightness is reached.

- Tapes recorded on S-VHS or S-VHS ET (☞ pg. 18, 20) cannot be played back correctly on a normal VHS VCR.
  To playback on a regular VHS VCR, use a VHS tape and select S-VHS ET (OFF) in SYSTEM MENU (☞ pg. 18, 20).

PLAYBACK

1 Load a tape (☞ pg. 8, “Loading/Unloading A Cassette”).

2 Set the Power Switch ⑫ to “ PLAY ”. To start playback, press ▶/❚❚ ⑯ or ㉟.
To stop playback temporarily (Still Playback), press ▶/❚❚ ⑯ or ⑫. To stop playback, press ■ ⑭. Press ◀◀ ⑮ to rewind, or ▶▶ ⑰ to fast-forward the tape.
High-speed picture search (Shuttle Search) is possible by pressing ◀◀ ⑮ or ▶▶ ⑰ during playback (holding ◀◀ ⑮ or ▶▶ ⑰ down during playback continues search until released). To resume normal playback, press ▶/❚❚ ⑯ or ㉟.

For VIDEO RECORDING/VIDEO PLAYBACK

- The camcorder shuts off automatically after about 5 minutes in the Record-Standby or Stop mode. To turn on again, set the Power Switch ⑫ to “OFF”, then to “ A ”, “ M ” or “ PLAY ”.
- When the Power Switch ⑫ is set to “ A ”, “ M ” or “ PLAY ” and the LCD monitor* is opened at an angle of 60 degrees or more, the LCD monitor switches on and the viewfinder switches off automatically to save power.
- The playback picture can be viewed in the viewfinder (with the LCD monitor shut), on the LCD monitor or on a connected TV (☞ pg. 15, “Connections To A TV/VCR”).
- To remove the indications, ☞ pg. 21, DISPLAY or OSD OUTPUT in SYSTEM MENU.
- To control the speaker volume, slide VOL. ❸ towards “+” to turn up, or towards “–” to turn down. While shooting, sound is not heard from the speaker.
- If TBC (☞ pg. 14) is engaged during Still Playback, noise bars will not appear.

Snapshot

You can record still images that look like photographs onto a tape.

1) Perform step **1** of "RECORDING" (☞ pg. 11).

2) Press SNAPSHOT ❷.

- There is a momentary camera shutter-type blackout together with the sound effect of a shutter closing.
- Snapshot is also available during playback. However, the shutter sound is not heard.

Picture Stabilizer

To compensate for unstable images caused by camera-shake, particularly at high magnification.

1) Press P. STABILIZER ❹. 11 appears.

2) To switch off the Picture Stabilizer, press P. STABILIZER ❹. 11 disappears.

- Accurate stabilization may not be possible in certain conditions including excessive hand shake.
- 11 appears blinking if the Stabilizer cannot be used.
- This function cannot be activated during the "Night-Alive", "CLASSIC FILM", "STROBE" and "VIDEO ECHO" modes (☞ pg. 23, "Digital Effects").

Zooming

To produce the zoom in/out effect. Digital circuitry extends the maximum magnification offered by optical zoom. This system is called Digital Zoom.

- Slide the Power Zoom Lever ❸ towards "**T**" to zoom in, or "**W**" to zoom out.
- The further you slide the Power Zoom Lever ❸, the quicker the zoom action.
- Focusing may become unstable during Zooming. In this case, set the zoom while in Record–Standby, lock the focus by using the manual focus (☞ pg. 18, FOCUS in CAMERA MENU), then zoom in or out in Record mode.
- The zoom level indicator 6-ⓐ moves during zoom. Once the zoom level indiator 6-ⓐ reaches the top, all magnification from that point is through digital processing.
- When using Digital Zoom, the quality of image may suffer. To deactivate Digital Zoom, set "D.ZOOM" (☞ pg. 20) to "OFF" in SYSTEM MENU.
- Digital zoom cannot be used when the "VIDEO ECHO" mode (☞ pg. 23, "Digital Effects") is activated.

Video Light

To brighten the scene when natural lighting is too dim.

Set LIGHT OFF/AUTO/ON ⓭ as required:

OFF : Turns off the light.

AUTO: Automatically turns on the light when the camcorder senses insufficient lighting on the subject.

ON : Always keeps the light on as long as the camcorder is turned on.

- It is recommended to set M.W.B. (☞ pg. 19) to ☀ in CAMERA MENU when you use the video light.
- Even if the battery indicator (▭) does not blink if the battery pack's charge is low, the camcorder may turn off automatically when you turn on the video light, or when you start recording with the video light turned on.
- When LIGHT OFF/AUTO/ON ⓭ is set to "AUTO":
  - Depending on the lighting conditions, the video light may keep turning on and off. Set LIGHT OFF/AUTO/ON ⓭ to ON or OFF as required.
  - While the "Sports" or "High Speed Shutter" mode is engaged, the light is likely to stay on. While the "Twilight" mode is engaged, the light will not activate. (☞ pg. 23, "Program AE with Special Effects")

DANGER

- The video light can become extremely hot. Do not touch it either while in operation or soon after turning it off, otherwise serious injury may result.
- Do not place the camcorder into the carrying case immediately after using the video light, since it remains extremely hot for some time.
- When operating, keep a distance of about 30 cm (11-13/16") between the video light and people or objects.
- Do not use near flammable or explosive materials.
- It is recommended that you consult your nearest JVC dealer for replacing the video light.

Quick Review

To check the end of the last recording.

1) Make sure the camcorder is in the Record–Standby mode.

2) Press ◀◀ ⓯ and release quickly.
Tape is rewound for approx. 2 seconds and played back automatically, then pauses in Record–Standby mode for the next shot.

- Distortion may occur at the start of playback. This is normal.

Retake

To re-record certain segments.

1) Make sure the camcorder is in the Record–Standby mode.

2) Press and hold either RETAKE ⓯ or ⓱ to reach the start point for new recording. Pressing ▶▶ ⓱ forwards the tape and pressing ◀◀ ⓯ reverses it.

3) Press the Recording Start/Stop Button ⓫ to start recording.

- Noise bars appear and pictures may become monochrome or darken during Retake. This is normal.

Tracking

Eliminates noise bars that appear on-screen during playback. To activate Manual Tracking:

1) Press the TRACKING Wheel ❶ for approx. 2 seconds. "MT" 28 appears.

2) Rotate the TRACKING Wheel ❶ so that the noise bars disappear.

- To return to Auto Tracking, press the TRACKING Wheel ❶ for approx. 2 seconds or set the Power Switch ⓬ to "OFF" and then "PLAY" again. "AT" 28 blinks. When Auto Tracking finishes, the indication disappears.
- When noise bars appear during playback, the camcorder enters the Auto Tracking mode and "AT" 28 appears.
- Manual Tracking may not work with tapes recorded on other VCRs or camcorders.

TBC (Time Base Corrector)

Removes jitter from fluctuating video signals to deliver a stable picture even with old tapes.

To activate/release the TBC mode, press TBC ❹ during playback for more than 1 second. When the TBC mode is activated, "TBC" 22 is displayed.

- The "TBC" indicator 22 turns green (gray with a camcorder equipped with a black/white viewfinder) while TBC is working, and white while TBC is not operative.
- TBC does not work during Still Playback and Shuttle Search (☞ pg. 11).
- It may take a few seconds before TBC actually starts working.
- The picture may be distorted if the TBC mode is activated or deactivated at the edit-in/-out points or when normal playback resumes after Still Playback or Shuttle Search (☞ pg. 11).
- If the playback picture is distorted when TBC is set to on, turn off TBC.

Counter Memory

Makes it easier to locate a specific tape segment.

1) Press COUNTER R/M ⓴ and hold for more than 1 second. The counter 25 resets to "0:00:00".

2) Press COUNTER R/M ⓴ for less than 1 second. "M" appears.

3) After recording or playback, press ■ ⓮, then ◀◀ ⓯. The tape automatically stops at or close to 0:00:00.

4) Press ▶/❚❚ ⓰ to start playback.

- The counter memory functions in the Fast-Forward and Rewind modes.
- To disable the counter memory function, press COUNTER R/M ⓴ for less than 1 second so that "M" disappears.

Playback Special Effects

Allows you to add creative effects to the playback image. (☞ pg. 23, "Digital Effects")

1) Activate "TBC" and Auto "Tracking".

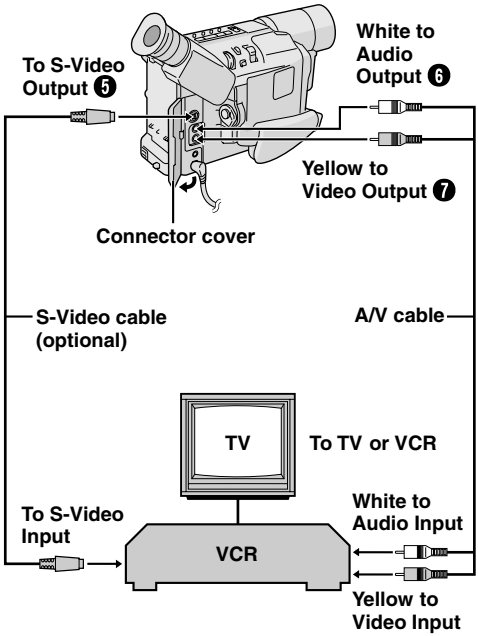
2) Press DIGIFECT ㉒ repeatedly until the desired mode 23 appears.

- To cancel the effect, select "OFF".
- NEGA POSI, MOSAIC and STRETCH are not available.
- Playback Special Effects do not work during Shuttle Search (☞ pg. 11).
- The selected effect mode cannot be changed during Still Playback (☞ pg. 11).

Connections To A TV/VCR

1) Make sure all units are turned off.
2) Connect the camcorder to a TV or VCR using optional video and audio cables. If using both TV and VCR, connect the VCR output to the TV input.
3) Turn on all units. Set the VCR to its AUX input mode, and set the TV to its VIDEO mode.

- Use the AC Adapter as the power supply.
- The S-Video cable connection can improve the dubbed picture quality. **The S-Video cable is optional. Be sure to use the following cable: YTU94146A S-Video cable.**
  Consult the JVC Service Center described on the sheet included in the package for details on its availability. Make sure to connect the end with a core filter to the camcorder. The core filter reduces interference.
- Be sure to adjust the TV sound volume to its minimum level to avoid a sudden burst of sound when the camcorder is turned on.
- If you have a TV or speakers that are not specially shielded, do not place the speakers adjacent to the TV as interference will occur in the camcorder playback picture.



Tape Dubbing

1) Connect the camcorder and the VCR (☞ "Connections To A TV/VCR"). Set the Power Switch ⓬ to "PLAY", turn on the VCR's power, and insert the appropriate cassettes in the camcorder and the VCR. Engage the VCR's AUX and Record-Pause modes.
2) Press ►/❚❚ ⓰ to find a spot just before the edit-in point. Once it is reached, press ►/❚❚ ⓰ again.
3) Press ►/❚❚ ⓰ and engage the VCR's Record mode.
4) Engage the VCR's Record-Pause mode and press ►/❚❚ ⓰.

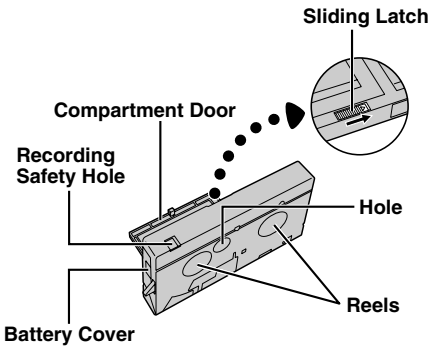
- Repeat steps **2)** through **4)** for additional editing, then stop the VCR and camcorder when finished.

Using The Cassette Adapter

Use this to play back an S-VHS-C/VHS-C video cassette recorded with this camcorder on a S-VHS/VHS VCR.

1) Slide the battery cover up to remove it, install one “AA (R6)” size battery, then reattach the cover.
2) Slide the latch to open the compartment door, then insert the cassette and close the compartment door.
3) Load the cassette adapter into the VCR and play the tape back.
4) Slide the latch and the compartment door opens automatically. This may take around 10 seconds. Do not attempt to force the adapter open. Then, insert your finger in the hole, and push up and remove the cassette.

- During tape loading and unloading, do not touch the reels for safety and tape protection.
- Tapes recorded in S-VHS or S-VHS ET mode cannot be played back on a regular VHS VCR. Playback is possible with a VCR equipped with the S-VHS or SQPB (S-VHS QUASI PLAYBACK) function.
- During special-effect playback (slow motion, still frame, etc.), the picture may vibrate or noise bars may appear on the screen.
- To record on a VCR using a compact cassette and the adapter, cover the adapter’s recording safety hole with adhesive tape.



Connection To A Personal Computer

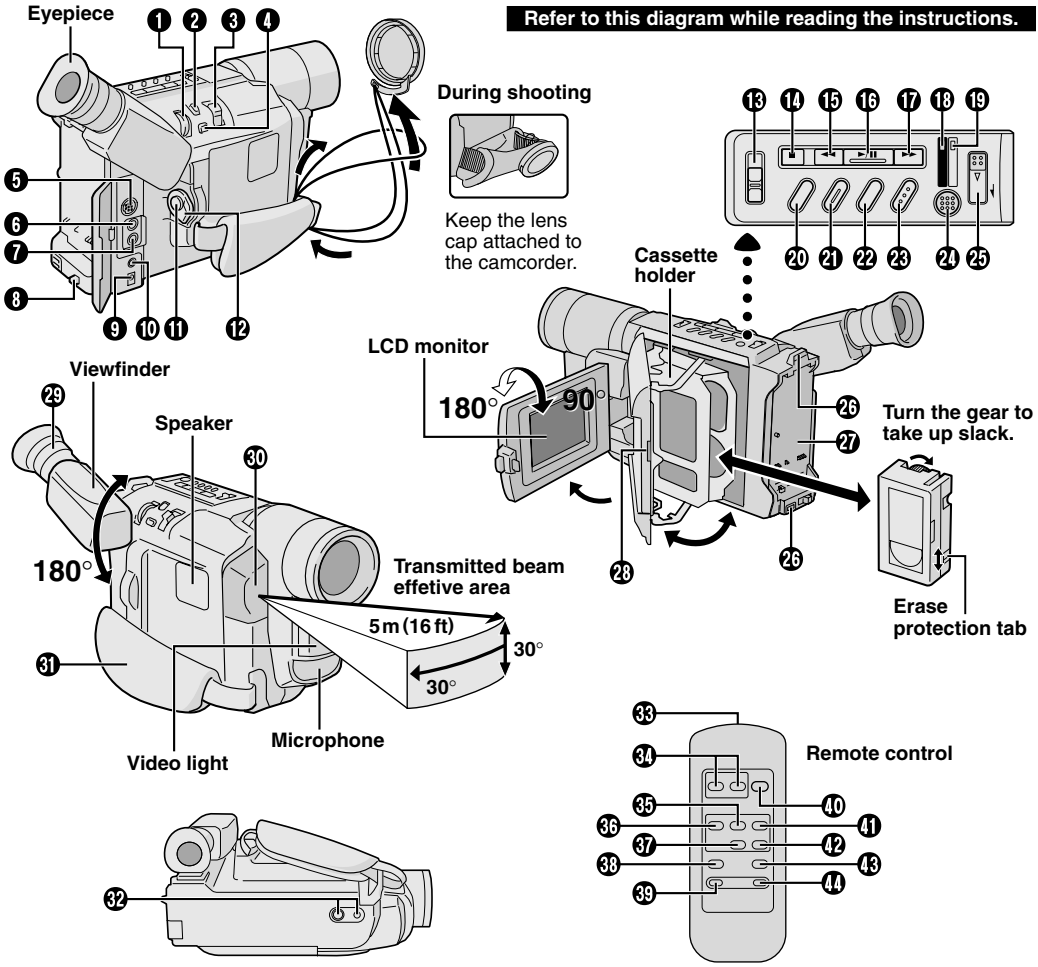
You can transfer image data from the camcorder to a PC using Digital Photo Navigator. When connecting to your PC, refer to the instruction manuals of the PC and Setup Guide for the provided software.

When connecting to a Macintosh . . .

The optional KEYSPAN USA-19 USB PDA Adapter is required.

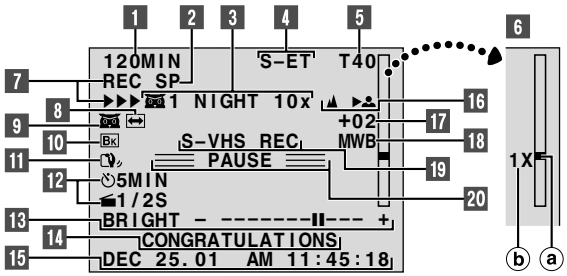
- Macintosh is a registered trademark of Apple Computer, Inc.
- Keyspan is a trademark of InnoSys Inc.

Refer to this diagram while reading the instructions.

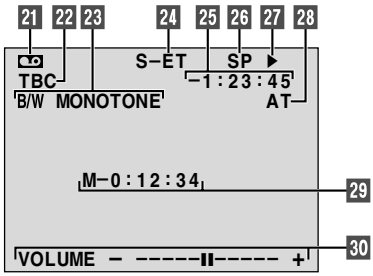


LCD Monitor/Viewfinder Indications

During Recording



During Playback



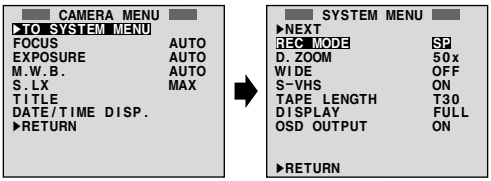
☞ pg. 25 for **Warning Indications** .

MENU SETTINGS

1 Set the Power Switch ⑫ to "Ⓜ".

2 Press the MENU Wheel ❶ in. The Menu Screen appears. Rotate the MENU Wheel ❶ to select the desired function.

- To go from CAMERA MENU to SYSTEM MENU, rotate the MENU Wheel ❶ to select "►TO SYSTEM MENU" and press it. SYSTEM MENU is composed of 2 pages. To go to the next page, rotate the MENU Wheel ❶ to select "►NEXT" and press it.
- To return to CAMERA MENU from page 2 of SYSTEM MENU, rotate the MENU Wheel ❶ to select "►TO CAMERA MENU" and press it.



3 Press the MENU Wheel ❶ in to display the Setting Menu and rotate it to select the desired setting.

4 Press the MENU Wheel ❶ in. The Menu Screen reappears with the highlight bar on "►RETURN". Press the MENU Wheel ❶ in. The normal screen reappears.

CAMERA MENU

FOCUS

If correct focus cannot be obtained with AUTO FOCUS, set to MANU to use manual focusing. "▲ 👤" appears.

To focus on a farther subject, rotate the MENU Wheel ❶ upward. "◄" appears and blinks.

To focus on a nearer subject, rotate the MENU Wheel ❶ downward. "►" appears and blinking.

- If the lens is smeared or blurred, accurate focusing is not possible.
- When shooting a subject close to the lens, zoom out first (☞ pg. 13, "Zooming"). If zoomed in in the auto focus mode, the camcorder could automatically zoom out depending on the distance between the camcorder and the subject. This does not occur with "TELE MACRO" (☞ pg. 21) in SYSTEM MENU.
- Be sure to focus the lens in the maximum telephoto position when you use the Manual Focus mode. If you focus in on a certain subject in the wide-angle position, sharply focused images cannot be obtained when zoomed in because the depth-of-field is reduced at longer focal lengths.
- When the focus level cannot be adjusted any farther or closer, "▲" or "👤" will blink.

EXPOSURE

Manual exposure adjustment is recommended in the following situations:

- When shooting using reverse lighting or when the background is too bright.
- When shooting on a reflective natural background such as at the beach or when skiing.
- When the background is overly dark or the subject light.

To brighten the image, rotate the MENU Wheel ❶ downward.

To darken the image, rotate the MENU Wheel ❶ upward.

The exposure control level increases/decreases (maximum ±06).

M.W.B.

If the white balance is correct, all other colors will be accurately reproduced.

AUTO : White balance is adjusted automatically.

FINE : Outdoors on a sunny day.

CLOUD : Outdoors on a cloudy day.

HALOGEN : A video light or similar type of lighting is used.

MWB: White balance is set manually. Hold a sheet of plain white paper in front of the subject. Adjust zoom or position yourself so that the white paper fills the screen. If it is difficult to focus on the white paper, adjust focus manually (☞ FOCUS in CAMERA MENU). Press the MENU Wheel ❶ in until "MWB" begins blinking. When the setting is completed, "MWB" stops blinking.

- Once you adjust white balance manually, the setting is retained even if the power is turned off or the battery removed.
- White balance cannot be used when the "SEPIA" or "MONOTONE" mode (☞ pg. 23, "Digital Effects") is activated.

S.LX

MAX: To record a subject in a darkly lit environment, when it is more convenient to shoot the subject with a brighter image even if the picture becomes slightly coarse.

NORMAL: To record a subject in a dimly lit environment, when it is more convenient to shoot with a less coarse picture although the subject becomes slightly dark. This setting is suitable for measuring sensitivity conforming to EIA-639 (EIA* Standard for Low Light Sensitivity Measurement).

* EIA : Electronic Industries Alliance

OFF: Allows you to shoot dark scenes with no picture brightness adjustment.

TITLE

Allows you to superimpose one of eight preset titles in 2 different languages. Change the language in TITLE LANG. (☞ pg. 21) in SYSTEM MENU.

- 14 shows the selected title which remains until OFF is selected.

DATE/TIME DISP.

Makes the date/time appear in the camcorder or on a connected monitor (set DATE/TIME in SYSTEM MENU first ☞ pg. 7).

- The selected display will be recorded. If you do not want to record the display, select OFF before shooting.
- In the AUTO DATE mode, the camcorder records the date for about 5 seconds when recording is initiated after the date is changed, a cassette is loaded, or AUTO DATE is selected. The date is replaced after 5 seconds with "AUTO DATE" but this is not recorded.

SYSTEM MENU

This Menu Screen cannot be accessed while recording.

REC MODE

Allows you to set the recording mode. “EP” (Extended Play) is more economical, providing three times the recording time.

- If the recording mode is switched during recording, the playback picture will be blurred at the switching point.

D. ZOOM

Zooming is possible from 16X (the optical zoom limit), to a maximum of 50X or 600X digital magnification.
When set to “OFF” only optical zoom (maximum 16x magnification) can function.

WIDE

When set to “ON” black bars will be recorded at the top and bottom of the screen to produce a cinema-like “wide-screen” effect. Not effective with “Snapshot” (☞ pg. 12).

S-VHS (S-VHS ET)

ON: With an S-VHS cassette, “S” appears and the camcorder records in S-VHS.
With a VHS cassette, “S-ET” appears and the camcorder records with S-VHS picture quality, which is called Super VHS ET (Expansion Technology). S-VHS REC appears during recording.
OFF: Records in VHS on a VHS or S-VHS cassette.

- JVC EHG (Extra High Grade) tapes are recommended for superior results.
  Use S-VHS tape for storing recordings for an extended period or for recording important scenes, as it enables higher-quality recording and playback.
- With some tapes, better picture quality may not be obtained even with S-VHS ET recording. It is recommended that you do test record beforehand to make sure whether better results can be obtained.
- If the S-VHS ET mode or recording format is switched during recording, the playback picture will be blurred at the switching point.
- It is recommended that tapes recorded on this camcorder be played back on this camcorder.
- Tapes recorded in S-VHS or S-VHS ET mode can be played back not only on this camcorder but also on a Super VHS VCR or a VCR equipped with the SQPB (S-VHS QUASI PLAYBACK) function.
  — When tapes recorded in S-VHS or S-VHS ET mode are played back on a VCR equipped with the SQPB (S-VHS QUASI PLAYBACK) function, S-VHS picture quality is not available.
  — Tapes recorded in S-VHS ET mode cannot be played back on some VCRs, including some JVC VCRs.
- Tapes recorded in S-VHS or S-VHS ET mode cannot be played back correctly on a normal VHS VCR.
- S-VHS ET does not work with S-VHS tapes.
- To avoid on-screen noise, do not perform Still Playback or Shuttle Search repeatedly.
- If the picture contains a lot of jitter or noise, use a cleaning cassette.

TAPE LENGTH

Allows you to set the tape length depending on the tape used: T20=20 minutes, T30=30 minutes, T35=35 minutes, T40=40 minutes.

- Tape remaining time 1 is correct only if the correct tape length has been selected.

DISPLAY

FULL: Makes all of the indications appear on the LCD monitor/viewfinder during playback or recording.

SIMPLE: Makes the following indications disappear from the LCD monitor/viewfinder during recording or playback: , tape remaining time, , tape length (☞ pg. 9, 17).

OSD OUTPUT

ON: On-screen indications are displayed.

OFF: On-screen indications are turned off except Date/Time, Instant Title and Warning Indication.

REC TIME

You can shoot a series of pictures, each slightly different, of the same object for a brief selected period of time (Animation). REC MODE should be set to “SP”.

Select the desired recording time and press the Recording Start/Stop Button ⓫ after focusing on the subject.

- The remote control can also be used for this setting. (☞ pg. 24, “Animation And Time-Lapse”)
- Fade- or wipe-in/out cannot be performed.
- This function is canceled when the power is shut off or when the cassette is ejected.

INT. TIME

You can record sequentially at preset time spans. Leaving the camcorder aimed at a specific subject, you can record subtle changes over an extended period of time (Time-Lapse). REC MODE should be set to “SP”.

Select the desired interval time and press the Recording Start/Stop Button ⓫.

- The remote control can also be used for this setting. (☞ pg. 24, “Animation And Time-Lapse”)
- Fade- or wipe-in/out cannot be performed.
- This function is canceled when the power is shut off or when the cassette is ejected.

TELE MACRO

When set to “ON”, you can shoot a subject as large as possible at a distance of approx. 60 cm (23-5/8").
Depending on the zoom position, the lens may go out of focus.

TITLE LANG.

Allows you to select the language (ENGLISH, FRENCH, SPANISH or PORTUGUESE) of TITLE in CAMERA MENU. After selection, the TITLE setting menu (☞ p. 19) appears automatically.

DATE/TIME

Allows you to set the current date and time. (☞ pg. 7)

DEMO MODE

Demonstrates certain functions automatically. Available when the Power Switch ⓬ is set to “A” or “M” and “DEMO MODE” is set to “ON” (factory-preset). Performing any operation during the demonstration stops the demonstration temporarily. Set to OFF to stop completely.

- When a tape whose erase protection tab is in the position that allows recording is loaded in the camcorder, demonstration is not available.
- If you do not detach the Lens Cap, you cannot see the actual changes of the Automatic Demonstration activated on the LCD monitor or viewfinder.

Night-Alive

Makes dark subjects or areas even brighter than they would be under good natural lighting.

1) Set the Power Switch ⑫ to "A" or "M".
2) Press NIGHT-ALIVE ㉓ repeatedly until the desired mode appears.

A NIGHT AUTO: The shutter speed is automatically adjusted (maximum 1/6 sec.).

1 NIGHT 10X (only when the Power Switch ⑫ is set to "M")**:** The shutter speed is set to 1/6th of a second to provide 10 times the sensitivity.

2 NIGHT 60X (only when the Power Switch ⑫ is set to "M")**:** The shutter speed is set to 1 second to provide 60 times the sensitivity.

- To cancel the effect, press NIGHT-ALIVE ㉓ repeatedly until "OFF" appears.
- During Night-Alive, the following cannot be activated: "Picture Stabilizer", "Program AE With Special Effects", "Digital Effects" and "S.LX" in CAMERA MENU (☞ pg. 19).
- Night-Alive does not work when LIGHT OFF/AUTO/ON ⑬ is set to "AUTO" or "ON" (☞ pg. 13, "Video Light").
- During Night-Alive, it may be difficult to bring the camcorder into focus. To prevent this, use of a tripod is recommended.

Fade/Wipe Effects

Fade- or wipe-in works at recording start, and fade- or wipe-out works at recording end.

1) Set the Power Switch ⑫ to "M".
2) Press FADE/WIPE ⑳ repeatedly until the desired mode appears.
3) Press the Recording Start/Stop Button ⑪ to activate fade-in/out or wipe-in/out.

- Pressing and holding the Recording Start/Stop Button ⑪ allows you to vary the length for the image during fade in/out or wipe in/out.
- To cancel a fade or wipe, press FADE/WIPE ⑳ repeatedly until "OFF" appears.

FADER: Fades in/out to a black screen.

MOSAIC (Fader): Gradually turns/returns the picture into/from a mosaic pattern.

SHUTTER (Wipe): A black screen moves in from the top and bottom, closing over the image like a shutter, or a new image pushes open the black screen vertically from the center.

SLIDE (Wipe): A black screen moves in from the left to gradually cover the image, or a new image moves in from right to left.

DOOR (Wipe): Wipes in as the two halves of a black screen open to the left and right, revealing the scene, or wipes out and the black screen reappears from left and right to cover the scene.

CORNER (Wipe): Wipes in on a black screen from the upper right to the lower left corner, revealing the scene, or wipes out from lower left to upper right, leaving a black screen.

WINDOW (Wipe): Wipes in on a black screen from the center of the screen towards the corners, revealing the scene, or wipe out from the corners to the center, leaving a black screen.

Program AE With Special Effects

1) Set the Power Switch ⑫ to "Ⓜ".
2) Press P.AE ㉑ repeatedly until the desired mode appears.

- To cancel the effect, press P.AE ㉑ repeatedly until "OFF" appears.
- Only one mode can be engaged at a time.
- In the "High Speed Shutter" or "Sports" modes, picture color may be adversely affected if the subject is lit by alternating discharge-type light sources such as flourescent or mercury-vapor lights.
- This function cannot be activated during Night-Alive (☞ pg. 22).

SPORTS: High shutter speed clearly captures fast-moving action.

ND : ND EFFECT: A black mist darkens the picture, as when an ND filter is used. Helps to counter the effects of glare on the subject.

FG : FOG: Makes the picture look misty white, as when an external fog filter is attached to the lens. Softens the image and gives it a "fantasy" look. This mode cannot be used when the "VIDEO ECHO" mode (☞ "Digital Effects") is activated.

TWILIGHT: Dusk, twilight scenery, fireworks, etc., look more natural and dramatic. In this mode, S.LX and AUTO FOCUS in CAMERA MENU (☞ pg. 18, 19) may not work.

2 S1/2000 (1/2000 sec. High Speed Shutter): Captures faster action than Sports mode. The screen becomes slightly dark. Use in well-lit situations.

Digital Effects

1) Set the Power Switch ⑫ to "Ⓜ".
2) Press DIGIFECT ㉒ repeatedly until the desired mode appears.

- To cancel the effect, press DIGIFECT ㉒ repeatedly until "OFF" appears.
- This function cannot be activated during Night-Alive (☞ pg. 22).
- Picture Stabilizer cannot be activated during the "CLASSIC FILM", "STROBE" and "VIDEO ECHO" mode.

SEPIA: Recorded scenes have a brownish tint like old photos. Combine this with WIDE in SYSTEM MENU for a classic look.

B/W MONOTONE: Like black and white films, your footage is shot in B/W. Combine this with WIDE in SYSTEM MENU for a classic look.

B. FILTER: Recorded scenes have a bluish tint.

R. FILTER: Recorded scenes have a reddish tint.

SOLARI: The picture is recorded with an effect similar to a painting.

NEGA POSI: The colors of a picture are reversed.

MOSAIC: Turns recorded scenes into a mosaic pattern.

STRETCH: Doubles the width of the picture horizontally.

CLASSIC FILM: Makes your footage look like a classic movie by shooting in black and white, with a strobing effect, and black bars added at the top and bottom.

STROBE: Your recording looks like a series of consecutive snapshots.

VIDEO ECHO: Adds a "ghost" to the subject, giving your recording a "fantasy" feeling. Zoom magnification of over 10X is not available.

Make sure the remote control is pointed at the remote sensor ㉚.

Playback Zoom

To magnify the recorded image up to 10X at any time during playback. Make sure that the TBC mode is activated.

1) Press PLAY ㉟ to find the scene of interest.
2) Press ZOOM (**T/W**) ㉞. Pressing **T** zooms in. To end zoom press and hold **W** until magnification returns to normal. Or, press STOP ㊲ and then press PLAY ㉟.
- Due to digital image processing, the quality of the image may suffer.

Animation And Time-Lapse

The remote control lets you set/release interval time and recording time without setting REC TIME/ INT. TIME (☞ pg. 21) in SYSTEM MENU.

Animation
Each time ANIM. ㊴ is pressed, the recording time changes in the following order: 1/4S, 1/2S, 1S, 5S and no indication (off).

Time-Lapse
Each time REC TIME ㊴ is pressed, the recording time changes in the following order: 1/4S, 1/2S, 1S, 5S and no indication (off). Each time INT. TIME ㊹ is pressed, the interval time changes in the following order: 15S, 30S, 1MIN, 5MIN and no indication (off).

Insert Editing

You can record a new scene onto a previously recorded tape. Only the video signal is recorded in this mode.

1) Set the Power Switch ⑫ to "PLAY".
2) Play back the tape, locate the edit-out point and press PAUSE ㊷. Press and hold COUNTER R/M ⑳ for more than 1 second to reset the tape counter, then press it again for less than 1 second so that "M" appears.
3) Press REW ㊱ to go a little beyond the beginning of the scene you want to replace, press PLAY ㉟ to view the recorded tape, and press PAUSE ㊷ exactly at the edit-in point where the new scene should start.
4) While holding down INSERT ㊳, press and release PAUSE ㊷. ⏵ appears.
5) To begin Insert Editing, press START/STOP ㊵. When the counter reaches "0:00:00", editing stops automatically and the camcorder enters the Insert-Pause mode. To end Insert Editing, press STOP ㊲.
- During Insert Editing, the original audio will be heard from the speaker.
- After step **4)**, "Retake" (☞ pg. 13) can be performed.
- The tape may stop slightly before or after the designated end point, and noise bars may appear. Neither indicates a defect in the unit.

Audio Dubbing

You can record a new soundtrack on a prerecorded tape (normal audio only). The sound is recorded from the built-in microphone.

Perform steps **1)** and **2)** of the Insert Editing procedure.

3) Press REW ㊱ to go a little beyond the beginning of the scene onto which you want to dub the new audio, press PLAY ㉟ to view the recorded tape, then press PAUSE ㊷ at exactly the point where dubbing should start.
4) While holding down A. DUB ㊸, press and release PAUSE ㊷.
5) To begin Audio Dubbing, press PLAY ㉟. When the counter reaches "0:00:00", Audio Dubbing stops automatically and the camcorder enters the Audio Dub-Standby mode. To end Audio Dubbing, press STOP ㊲.
- Do not press REW ㊱ or FF ㊶ during Audio Dub-Standby, or the edit points will not be accurate.
- If the microphone is too close to the TV, or if the TV's volume is too high, whistling or howling may occur.

For Insert Editing/Audio Dubbing
- Insert Editing and Audio Dubbing may not work correctly if the tape contains blank segments, or if the recording speed was changed during the original recording.
- To edit/dub onto a tape, make sure the erase protection tab is in the position that allows recording.
- Do not press STOP ㊲ during Insert Editing or Audio Dubbing, or the edit points will not be accurate.

TROUBLESHOOTING

Before consulting your JVC dealer, please check the following to see if you can correct the problem yourself.

Vertical white lines appear when shooting a very bright object.
- This sometimes occurs when the contrast between the back-ground and the object is great. It is not a defect of the camcorder.

Bright, crystal-shaped spots appear in the LCD monitor and the viewfinder.
- Sunlight is directly entering the lens. This is not a defect of the camcorder.

Colored bright spots appear all over the LCD monitor or the viewfinder.
- The LCD monitor and the viewfinder are made with high-precision technology. However, black spots or bright spots of light (red, green or blue) may appear constantly on the LCD monitor or in the viewfinder. These spots are not recorded on the tape. This is not due to any defect of the unit. (Effective dots: more than 99.99 %.)

Animation or Time-Lapse is not available.
- Before recording in the Animation mode at the very beginning of a tape, set the camcorder to the Recording mode for about 5 seconds, so that the tape runs smoothly. Using the Fade-in function at this point is a good way to begin an animated program (☞ pg. 21, REC TIME/INT. TIME in SYSTEM MENU).

The tape is running, but there is no playback picture.
- The TV has not been set to its VIDEO mode or channel.
- If A/V connection is used, the TV's VIDEO/TV Switch has not been set to VIDEO.

Playback picture is blurred or interrupted.
- The video heads are dirty or worn out. Consult your nearest JVC dealer for head cleaning or replacement.

The tape stops during fast-forward or rewind.
- The Counter Memory Function has been activated (☞ pg. 14, "Counter Memory").

The date and time displays disappear.
- If you remove the power source from the camcorder while the power is on, all settings and selections are erased. Make sure to turn the camcorder's power off before disconnecting the power source.

The tape will not eject.
- The battery pack is running low.
- If the LCD monitor is not open over 60 degrees, the EJECT switch ㉕ does not function.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Adapter, etc.); and then re-connect it and proceed as usual from the beginning.

Warning Indications

(high) → → → (exhausted) **:** Displays the battery remaining power level. As the battery power comes close to nil, the battery indicator blinks (battery power warning). When the battery power is exhausted, power turns off automatically.

:Blinks when no cassette is loaded, or when the erase protection tab is not in the position that allows recording.

TAPE END: Appears when the tape ends during recording, playback or fast-forward.

LENS CAP: Appears for 5 seconds after power is turned on if the lens cap is attached.

CONDENSATION OPERATION PAUSED PLEASE WAIT: These 2 warnings appear alternately every 3 seconds if condensation occurs. In this case, all functions except tape eject and power on/off are disabled. Remove the tape, turn the unit off (without removing the power supply), wait a few minutes for the warnings to clear, and turn it on again.

HEAD CLEANING REQUIRED USE CLEANING CASSETTE: These 2 warnings appear alternately every 3 seconds if dirt is detected on the heads during recording. In this case, use an optional cleaning cassette. If the warning remains after cleaning, consult your nearest JVC dealer.

E01—E06 UNIT IN SAFEGUARD MODE REMOVE AND REATTACH BATTERY: The error indications (E01 — E06) show what type of malfunction has occured. If an error indication and warning appear, turn the unit off, remove the power supply (battery, etc.) and wait a few minutes for them to clear. When it does, you can resume using the camcorder. If the indication remains, consult your nearest JVC dealer.

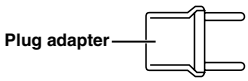
When using the AC Adapter in areas other than the USA

- The provided AC Adapter features automatic voltage selection in the AC range from 110 V to 240 V.

USING HOUSEHOLD AC PLUG ADAPTER

In case of connecting the unit's AC Adapter to an AC wall outlet other than American National Standard C73 series type use an AC plug adapter, called a "Siemens Plug", as shown.

For this AC plug adapter, consult your nearest JVC dealer.



Video Light

DANGER:

- The video light becomes extremely hot. Do not touch it either while in operation or soon after turning it off, otherwise serious injury may result.
- Do not place the camcorder into the carrying case immediately after using the video light, since it remains extremely hot for some time.
- When operating, keep a distance of about 30 cm (11-13/16") between the video light and people or object.
- Do not use near flammable or explosive materials.
- It is recommended that you consult your nearest JVC dealer for replacing the video light.

General Battery Precautions

If the remote control or cassette adapter is not functioning even if it is being operated correctly, the batteries are exhausted. Replace them with fresh ones.

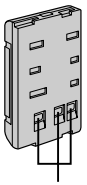
Use only the specified batteries ☞ pg. 2 "PROVIDED ACCESSORIES"

Please make note of the following rules for battery use. When misused, the batteries can leak or explode.

1. When replacing batteries, refer to page 2 for the remote control, or read the cassette adapter (C-P6U/C-P7U) instructions.
2. **Do not** use any different size of batteries from those specified.
3. Be sure to install batteries in the correct direction.
4. **Do not** use rechargeable batteries.
5. **Do not** expose the batteries to excessive heat as they can leak or explode.
6. **Do not** dispose of the batteries in a fire.
7. Remove the batteries from the unit if it is to be stored for an extended period to avoid battery leakage which can cause malfunctions.

Battery Packs

The battery packs are nickel-cadmium or nickel metal-hydride batteries. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions:



1. To avoid hazard . . .

.... **do not** burn.
.... **do not** short-circuit the terminals.
.... **do not** modify or disassemble.
.... use only specified chargers.

2. To prevent damage and prolong service life . . .

.... **do not** subject to unnecessary shock.
.... avoid repeated charging without fully discharging.
.... charge in an environment where temperatures are within the tolerances shown in the chart below. This is a chemical reaction type battery—cooler temperatures impede chemical reaction, while warmer temperatures can prevent complete charging.
.... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
.... avoid prolonged uncharged storage.
.... remove from charger or powered unit when not in use, as some machines use current even when switched off.

- It is normal for the battery pack to be warm after charging, or after use.

Temperature Range Specifications
Charging ..... 10°C to 35°C (50°F to 95°F)
Operation ..... 0°C to 40°C (32°F to 104°F)
Storage ..... –10°C to 30°C (14°F to 86°F)

- Recharging time is based on room temperature of 20°C (68°F).
- The lower the temperature, the longer recharging takes.

Cassettes

To properly use and store your cassettes, be sure to read the following cautions:

1. During use . . .

.... make sure the cassette bears the S-VHS-C or VHS-C mark.
.... be aware that recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
.... make sure the cassette is positioned properly when inserting.
.... do not load and unload the cassette repeatedly without allowing the tape to run at all. This slackens the tape and can result in damage.
.... do not open the front tape cover. This exposes the tape to fingerprints and dust.

2. Store cassettes . . .

.... away from heaters or other heat sources.
.... out of direct sunlight.
.... where they won't be subject to unnecessary shock or vibration.
.... where they won't be exposed to strong magnetic fields (such as those generated by motors, transformers or magnets).
.... vertically, in their original cases.

Main Unit

1. For safety, DO NOT . . .

.... open the camcorder's chassis.
.... disassemble or modify the unit.
.... short-circuit the terminals of the battery pack. Keep it away from metallic objects when not in use.
.... allow inflammables, water or metallic objects to enter the unit.
.... remove the battery pack or disconnect the power supply while the power is on.
.... leave the battery pack attached when the camcorder is not in use.

2. Avoid using the unit . . .

.... in places subject to excessive humidity or dust.
.... in places subject to soot or steam such as near a cooking stove.
.... in places subject to excessive shock or vibration.
.... near a television set.
.... near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
.... in places subject to extremely high (over 40°C or 104°F) extremely low (under 0°C or 32°F) temperatures.

3. DO NOT leave the unit . . .

.... in places of over 50°C (122°F).
.... in places where humidity is extremely low (below 35%) or extremely high (above 80%).
.... in direct sunlight.
.... in a closed car in summer.
.... near a heater.
.... in dusty places such as a beach.

4. To protect the unit, DO NOT . . .

.... allow it to become wet.
.... drop the unit or strike it against hard objects.
.... subject it to shock or excessive vibration during transportation.
.... keep the lens directed at extremely bright objects for long periods.
.... direct the eyepiece of the viewfinder at the sun.
.... carry it by holding the viewfinder or the LCD monitor*. Be sure to hold the main unit with both hands or use the grip.

* Applicable models only.

.... swing it excessively when using the shoulder strap.

LCD Monitor

1. To prevent damage to the LCD monitor, DO NOT . . .

.... push it strongly or apply any shocks.
.... place the camcorder with the LCD monitor on the bottom.

2. To prolong service life . . .

.... avoid rubbing it with coarse cloth.

3. Be aware of the following phenomena for LCD monitor use. These are not malfunctions:

- While using the camcorder, the surface around the LCD monitor and/or the back of the LCD monitor may heat up.
- If you leave power on for a long time, the surface around the LCD monitor becomes hot.

How To Handle a CD-ROM (for applicable models)

- Take care not to soil or scratch the mirror surface (opposite to the printed surface). Do not write anything or put a sticker on either the front or back surface. If the CD-ROM gets dirty, gently wipe it with a soft cloth outward from the center hole using a circular motion.
- Do not use conventional disc cleaners or cleaning spray.
- Do not bend the CD-ROM or touch its mirror surface.
- Do not store your CD-ROM in a dusty, hot or humid environment. Keep it away from direct sunlight.

About moisture condensation . . .

- You may have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass' outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

For Your Maintenance

1. After Use

① Set the **Power Switch** to "OFF" to turn off the camcorder.
② Open the LCD monitor to an angle of over 60 degrees. Slide **EJECT** to open the cassette holder, then remove the cassette.
③ Close and lock the cassette holder by pressing the Close button.
④ Close and lock the LCD monitor.
⑤ Slide **BATTERY RELEASE** to remove the battery pack.
⑥ Attach the provided lens cap to the camcorder's lens.

2. Cleaning The Camcorder

① Wipe gently the exterior with a soft cloth. Put cloth in diluted mild soap and wring it well to wipe off heavy dirt, then wipe again with a dry cloth.
② Open the LCD monitor and wipe it gently with a soft cloth. Be careful not to damage the monitor. Close the LCD monitor.
③ Blow the lens with a blower brush, then wipe it gently with lens cleaning paper.
④ Turn the eyepiece counterclockwise and pull it out.
⑤ Remove dust from the viewfinder using a blower brush.
⑥ Re-attach the eyepiece and turn it clockwise.

- Avoid using strong cleaning agents such as benzine or alcohol.
- Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.
- Mold may form if the lens is left dirty.
- When using a cleaner or chemically treated cloth, refer to the cautions that came with it.
- When removing the eyepiece, be sure to hold the viewfinder securely.

Declaration of Conformity

Model Number	: GR-SXM745U
Trade Name	: JVC
Responsible party	: JVC AMERICAS CORP.
Address	: 1700 Valley Road Wayne, N. J. 07470
Telephone Number	: 973-317–5000

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Change or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

SPECIFICATIONS

Camcorder

General

Format : S-VHS/VHS NTSC standard
Power source : DC 11 V ⎓ (Using AC Adapter)
DC 6 V ⎓ (Using battery pack)
Power consumption
Viewfinder on : 4.0 W
LCD monitor on : 4.5 W
Video light : 3.0 W
Signal system : NTSC-type
Video recording system
Luminance : FM recording
Color : Converted sub-carrier direct recording
Conforms to VHS standard
Cassette : S-VHS / VHS cassette
Tape speed
SP : 33.35 mm/sec. (1-5/16 ips)
EP : 11.12 mm/sec. (7/16 ips)
Recording time (max.)
SP : 40 minutes
EP : 120 minutes
(with TC-40 cassette)
Operating temperature : 0°C to 40°C (32°F to 104°F)
Operating humidity : 35% to 80%
Storage temperature : –20°C to 50°C (–4°F to 122°F)
Weight : Approx. 930 g (2.1 lbs)
Dimensions (W x H x D) : 200 mm x 112 mm x 118 mm (7-7/8" x 4-7/16" x 4-11/16") (with the LCD monitor closed and with the viewfinder fully tilted downward)
Pickup : 1/4" format CCD
Lens : F1.6, f = 3.9 mm to 62.4 mm, 16:1 power zoom lens with auto iris and macro control, filter diameter 40.5 mm
Viewfinder : Electronic viewfinder with 0.5" black/white CRT
White balance adjustment : Auto/Manual adjustment
LCD monitor : 3.5" diagonally measured, LCD panel/TFT active matrix system
Speaker : Monaural

Connectors

Video : 1 V (p-p), 75 Ω unbalanced, analog output (via Video output connector)
Audio : 300 mV (rms), 1 kΩ analog output
(via Audio output connector)
Digital : ø3.5 mm, 4-pole, mini-head jack
S-Video : **Y** : 1 V (p-p), 75 Ω, analog output
C : 0.29 V (p-p), 75 Ω, analog output

AC Adapter

Power requirement
U.S.A. and Canada : AC 120 V∿, 60 Hz
Other countries : AC 110 V to 240 V∿, 50 Hz/60 Hz
Output : DC 11 V ⎓, 1 A

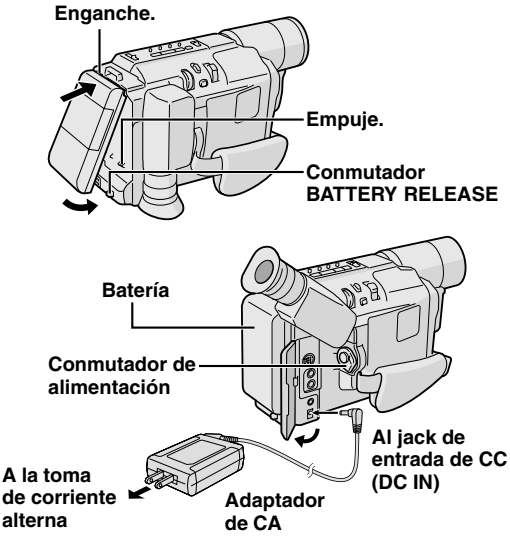
Optional Accessories

- **Battery Packs BN-V12U, BN-V20U, BN-V400U**
- **A/V (Audio/Video) Cable**
- **Compact S-VHS (S-VHS) Cassettes ST-C-40/30/20**
- **Compact VHS (VHS) Cassettes TC-40/30/20**
- **Active Carrying Bag CB-V7U**

Some accessories are not available in some areas. Please consult your nearest JVC dealer for details on accessories and their availability.

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

Esta cámara de video posee un sistema de alimentación de 2 vías que le permite seleccionar la fuente de alimentación más apropiada. No utilice las unidades de alimentación suministradas con otro equipo.



CARGA DE LA BATERIA

1) Asegúrese de que la batería esté colocada en la cámara de video. Enganche el extremo a la cámara de video y presione la batería hacia el interior hasta que quede bloqueada en su lugar.
- Si la batería está colocada en la posición equivocada, puede ocurrir un fallo.

2) Ajuste el conmutador de alimentación ⓬ en "OFF". Conecte el adaptador de alimentación CA a la cámara de video.

3) Enchufe el adaptador de alimentación CA en una toma de corriente alterna. La lámpara indicadora CHARGE ⓲ de la cámara de video parpadeará para indicar que la carga se ha iniciado.

4) Cuando la lámpara indicadora CHARGE ⓲ pare de parpadear, pero permanece encendida, la carga ha finalizado. Desenchufe el adaptador de alimentación CA de la toma de corriente alterna. Desconecte el adaptador de alimentación CA de la cámara de video.

Para la extracción de la batería . . .

... deslice BATTERY RELEASE ❽ y extraiga la batería.

Batería	Tiempo de carga
BN-V11U	aprox. 1 h 30 min
BN-V12U (opcional)	aprox. 1 h 30 min
BN-V20U (opcional)	aprox. 2 h 20 min
BN-V400U (opcional)	aprox. 4 h 30 min

Los tiempos de carga son para una batería completamente descargada.

USO DE LA BATERIA

Efectúe el paso **1)** de "CARGA DE LA BATERIA".

Tiempo de grabación aproximado (unidad: min)

Batería	Visor conectado	Monitor LCD conectado
BN-V11U	95 (50)	80 (45)
BN-V12U (opcional)	95 (50)	80 (45)
BN-V20U (opcional)	150 (85)	135 (75)
BN-V400U (opcional)	360 (205)	315 (190)

( ): cuando el foco de video está encendido

USO DE LA ALIMENTACIÓN DE CA

Conecte el adaptador de CA en la cámara de video (☞ pasos **2)** y **3)** de "CARGA DE LA BATERÍA").
- El adaptador de CA suministrado presenta una selección automática de voltaje con límites de CA de 110 V a 240 V.

ATENCIÓN

Antes de retirar la fuente de alimentación, asegúrese que la alimentación de la cámara de video esté desactivada. De lo contrario puede ocurrir un fallo en la cámara de video.

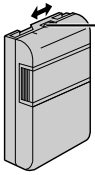
REFRESCO:

Asegúrese de descargar completamente una batería antes de recargarla o guardarla durante un intervalo de tiempo prolongado, de lo contrario, el desempeño de la batería será reducido.

1) Ejecute los pasos de **1)** hasta **3)** de "CARGA DE LA BATERÍA".

2) Presione REFRESH ⓴ durante más de 2 segundos. La lámpara REFRESH ⓳ destellará para indicar que la descarga se ha iniciado.

3) Cuando finalice la descarga, la carga será iniciada automáticamente y la lámpara CHARGE ⓲ empieza a destellar.



El **marcador de carga** le ayuda a recordar si la batería ha sido cargada o no. Son suministrados dos colores (rojo y negro) — usted elije qué color significa que está cargada y qué color significa que está descargada.

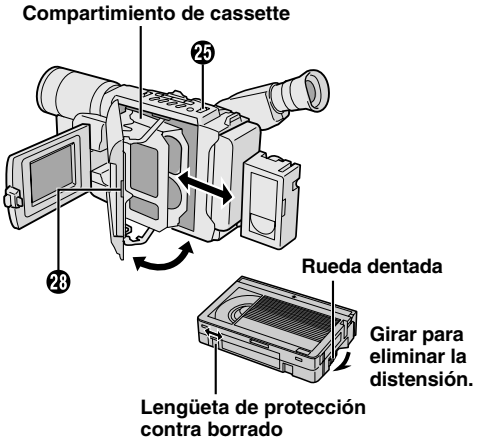
- Durante la carga o descarga, la cámara de video no puede ser operada.
- No es posible efectuar la carga o descarga si se utiliza un tipo de batería equivocado.
- Cuando efectúe la carga de la batería por primera vez o después de un largo periodo de almacenamiento, la lámpara CHARGE ⓲ puede no se encender. Retire la batería de la cámara de video, luego intente la carga nuevamente.
- Si el tiempo de funcionamiento de una batería completamente cargada es extremadamente corta, la batería puede estar estropeada. Adquiera una nueva batería.
- Efectúe la carga en lugares donde la temperatura sea entre 10˚C y 35˚C. La gama de temperatura ideal para efectuar la carga es de 20˚C a 25˚C. Si el ambiente es muy frío, la carga puede resultar incompleta.
- El tiempo de carga varía de acuerdo con la temperatura ambiente y el estado de la batería.
- Ya que el adaptador de CA procesa electricidad internamente, el mismo se calentará durante el uso. Asegúrese de utilizarlo sólo en áreas bien ventiladas.
- La siguiente operación interrumpirá la carga o la descarga:
  - Ajuste el interruptor de alimentación ⓬ en "PLAY", "A" o "M".
  - Desconecte el adaptador de CA de la cámara de video.
  - Desenchufe el adaptador de CA del tomacorriente de CA.
  - Extraiga la batería de la cámara de video.
- Utilizando el adaptador de alimentación/cargador de CA AA-V15, es posible cargar la batería BN-V11U/V12U/V20U/V400U sin la cámara de video. Sin embargo, no es posible utilizarlo como un adaptador de CA.
- Para evitar interferencias en la recepción, no utilice el adaptador de CA cerca de una radio.
- El tiempo de grabación es significativamente reducido cuando el modo de zoom o el modo de espera de grabación es activado repetidamente o el monitor LCD es utilizado repetidamente.
- Antes del uso prolongado, se recomienda que prepare suficiente batería para cubrir 3 vezes el tiempo de filmación planeado.

Si la unidad comienza a funcionar mal, deje de usarla inmediatamente y consulte a su concesionario local de JVC.

Colocación/Extracción de un cassette

1) Abra completamente el monitor LCD. Deslice EJECT ㉕ hasta que el compartimiento de cassete se abra. No aplique fuerza para abrirlo.
2) Inserte o retire un cassette. Cuando lo inserte, asegúrese de que la etiqueta esté hacia fuera. 21 aparece cuando un cassette es insertado.
3) Presione el botón de cierre ㉘ para cerrar el compartimiento de cassette hasta que se trabe. Cierre el monitor LCD.

- Cerrar el monitor LCD mientras que el compartimiento de cassette todavia está abierto puede causar daños en el monitor LCD.
- Asegúrese que la lengüeta de protección contra borrado esté en la posición que permite la grabación. De lo contrario, deslice la lengüeta. Algunos cassettes tienen lengüetas extraíbles. Si la lengüeta ha sido extraída, cubra el orificio con cinta adhesiva.
- El compartimiento de cassette no puede ser abierto mientras la cámara de video está en el modo de grabación o desconectada de la fuente de alimentación.



GRABACIÓN

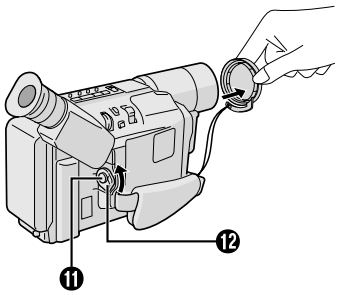
1) Retire el cubreobjetivo. Ajuste el conmutador de alimentación ⑫ en "A o M.
Filmación utilizando el visor: Asegúrese que el monitor LCD esté cerrado y bloqueado.
Filmación utilizando el monitor LCD: Asegúrese que el monitor LCD esté completamente abierto.
La cámara de video ingresa al modo de Espera de grabación y PAUSE 20 es mostrado.

- Si inclina el monitor LCD hacia arriba hasta 180 grados, el visor se vuelve a encender y la imagen monitoreada puede ser visualizada tanto en el monitor LCD como en el visor, de manera que la persona que está filmando puede visualizarse así misma.

2) Presione el botón de inicio/parada de grabación ⑪. REC 7 aparece mientras la grabación está en progreso.

- Para interrumpir la grabación, presione el botón de inicio/parada de grabación ⑪. La cámara de video reingresa al modo de espera de grabación.

Para ajustar el brillo del monitor LCD, gire el disco BRIGHT ❶ hasta que el indicador de nivel de brillo 13 del mostrador se mueva y logre el brillo apropiado.



REPRODUCCIÓN

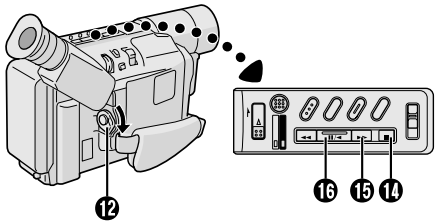
1) Cargue una cinta.

2) Ajuste el conmutador de alimentación ⑫ en PLAY. Para iniciar la reproducción, presione ►/II ⑯ o ㉟.
Para interrumpir momentáneamente (reproducción de imágenes fijas), presione ►/II ⑯ o ㊷. Para interrumpir la reproducción, presione ■ ⑭. Presione ◄◄ ⑮ para rebobinar, o ►► ⑰ para avanzar rápido la cinta. La búsqueda de imagen a alta velocidad (Búsqueda rápida) es posible presionando ◄◄ ⑮ o ►► ⑰ durante la reproducción (manteniendo presionado ◄◄ ⑮ o ►► ⑰ durante la reproducción continuará la búsqueda hasta que sea liberado). Para reanudar la reproducción normal, presione ►/II ⑯ o ㉟.

Para GRABACIÓN DE VÍDEO/REPRODUCCION DE VÍDEO

- La cámara de video se desactiva automáticamente después de 5 minutos en el modo de espera de grabación o modo de parada. Para activarla otra vez, ajuste el conmutador de alimentación ⑫ en OFF, luego en " A ", " M " o " PLAY ".
- Cuando el conmutador de alimentación ⑫ esté ajustado en " A ", " M " o " PLAY " y el monitor LCD está abierto en un ángulo de 60 grados o más, el monitor LCD se enciende y el visor se apaga automáticamente para ahorrar energía.
- La imagen reproducida puede ser visualizada en el visor (con el monitor LCD apagado), en el monitor LCD o en un TV conectado (☞ pág. 15, "Conexiones a un TV/VCR").
- Para retirar las conexiones , ☞ pág. 21, DISPLAY o OSD OUTPUT en SYSTEM MENU.
- Para controlar el volumen de los altavoces*, deslice VOL. ❸ hacia "+" para aumentarlo o hacia "–" para disminuirlo. Mientras filme, el sonido no será escuchado desde los altavoces*.
- Si TBC (☞ pág. 14) está activado durante la reproducción de imágenes fijas, las barras de ruidos no aparecerán.

O simplemente reproduzca la cinta en un VCR de VHS utilizando el adaptador de cassette. ☞ p. 16



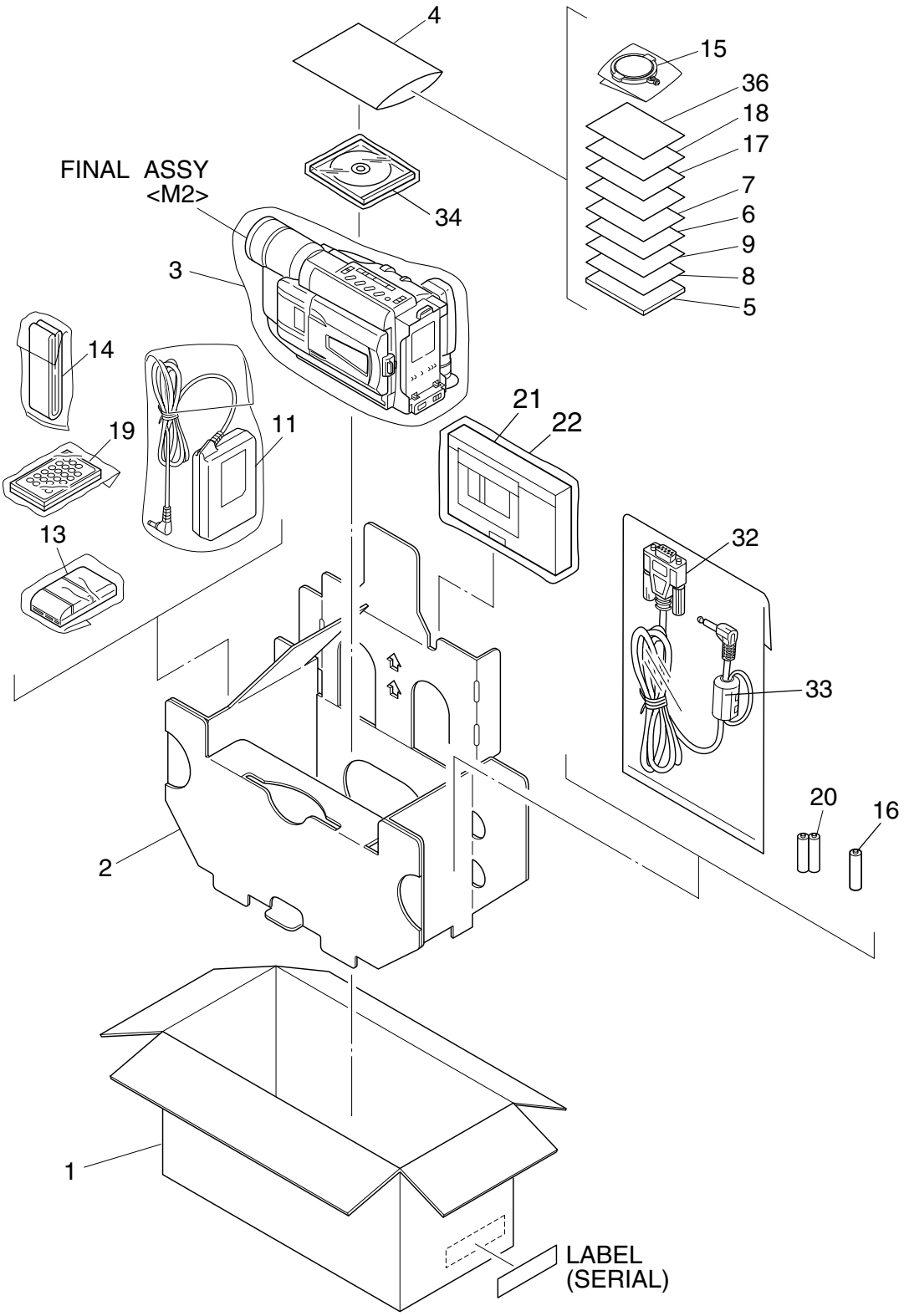
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

PACKING AND ACCESSORY ASSEMBLY <M1>

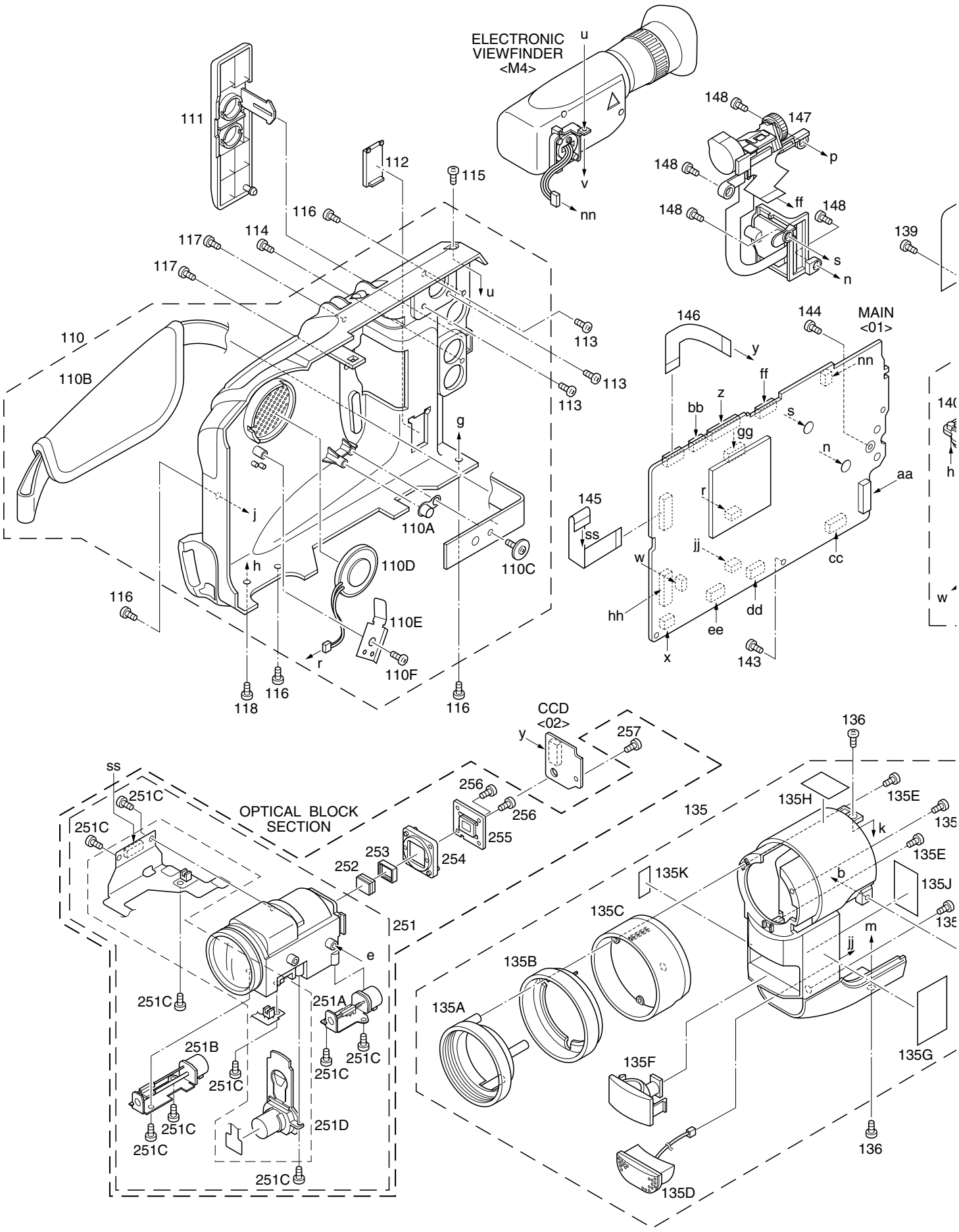
	1	LY32545-001B	PACKING CASE,H
		LY32545-002A	PACKING CASE,C,D,E,F
		LY32545-003A	PACKING CASE,A,B,G
		LY32545-006B	PACKING CASE,J
	2	LY32553-001A	CUSHION
	3	LY30023-002A	POLY BAG
	4	QPA02003506	POLY BAG
⚠	5	LYT0880-001B	INST.BOOK(EN),C
⚠		LYT0898-001A	INST.BOOK(EN),G
⚠		LYT0899-001A	INST.BOOK(EN),J
⚠		LYT0900-001A	INST.BOOK(EN),A
⚠		LYT0900-002A	INST.BOOK(FR),A
⚠		LYT0902-001A	INST,BOOK(FR),H
⚠		LYT0902-002A	INST.BOOK(EN),H
⚠		LYT0925-001A	INST.BOOK(EN),D,E
⚠		LYT0925-002A	INST.BOOK(FR),E
⚠		LYT0986-001A	INST.BOOK(EN),B
⚠		LYT0986-002A	INST.BOOK(FR),B
⚠		LYT0987-001A	INST.BOOK(EN),F
⚠		LYT0987-002A	INST.BOOK(FR),F
	6	BT-51028-1	REGIST.CARD,C,D,G,J
	7	BT-51005-5	WARRANTY INF.,C,D,G,J
⚠	8	LYT0862-001A	INST.BOOK(SOFT.EN),H,J
⚠		LYT0862-003A	INST.BOOK(SOFT.FR),H
	9	LYT0934-001A	SHEET(AGREMENT),H,J
⚠	11	LY20848-001B	AC ADAPTER,AP-V12U
⚠	13	YQ10629A	BATTERY PACK ASSY,BN-V11U
	14	LY20186-001A	SHOULDER STRAP
	15	LY43388-001A	LENS CAP
	16	–	BATTERY,AA(R6)
	17	BT-52004-2	WARRANTY CARD,A,B,E,F,H
	18	BT-20071B	SER.NET CARD,A,B,E,F,H
	19	LY42129-001A	REMOTE CONTROL UNIT,RM-V715U,J
	20	–	BATTERY,AAA(R03),X2,J
	21	YQ31963B-3	CASSETTE ADAPTER,C-P7U
	22	YQ43446	POLY BAG
	32	QAM0384-001	PC CONNECTION CABLE,H,J
	33	QQR1266-001	CORE FILTER,H,J
	34	LY32210-020B	CD ROM ASSY,H,J
	36	LYT0974-001A	SHEET(ATT.),H,J

MODEL	MARK
GR-AXM236UC	A
GR-AXM240UC	B
GR-SXM240U	C
GR-SXM245U	D
GR-SXM245UC	E
GR-SXM248UC	F
GR-AXM341U	G
GR-SXM540UC	H
GR-SXM745U	J

• INSTRUCTIONS

EN ..... ENGLISH

FR ..... FRENCH


ELECTRONIC VIEWFINDER <M4>
MAIN <01>
CCD <02>
OPTICAL BLOCK SECTION
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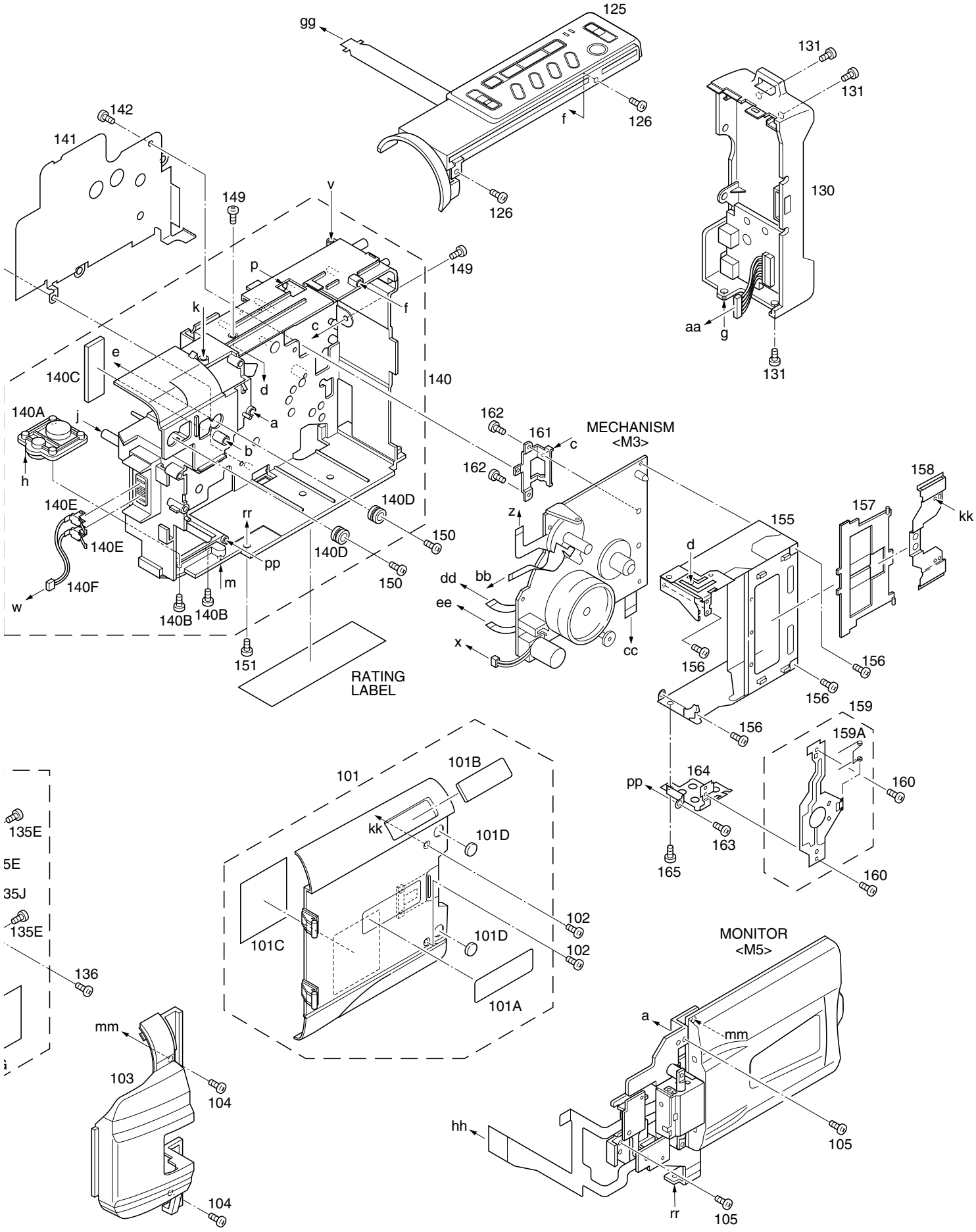
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c
MECHANISM
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140B
151
RATING
LABEL
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156
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101B
kk
101D
102
101C
101D
102
101A
135E
5E
35J
135E
136
MONITOR
<M5>
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104
105
hh
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105
rr

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

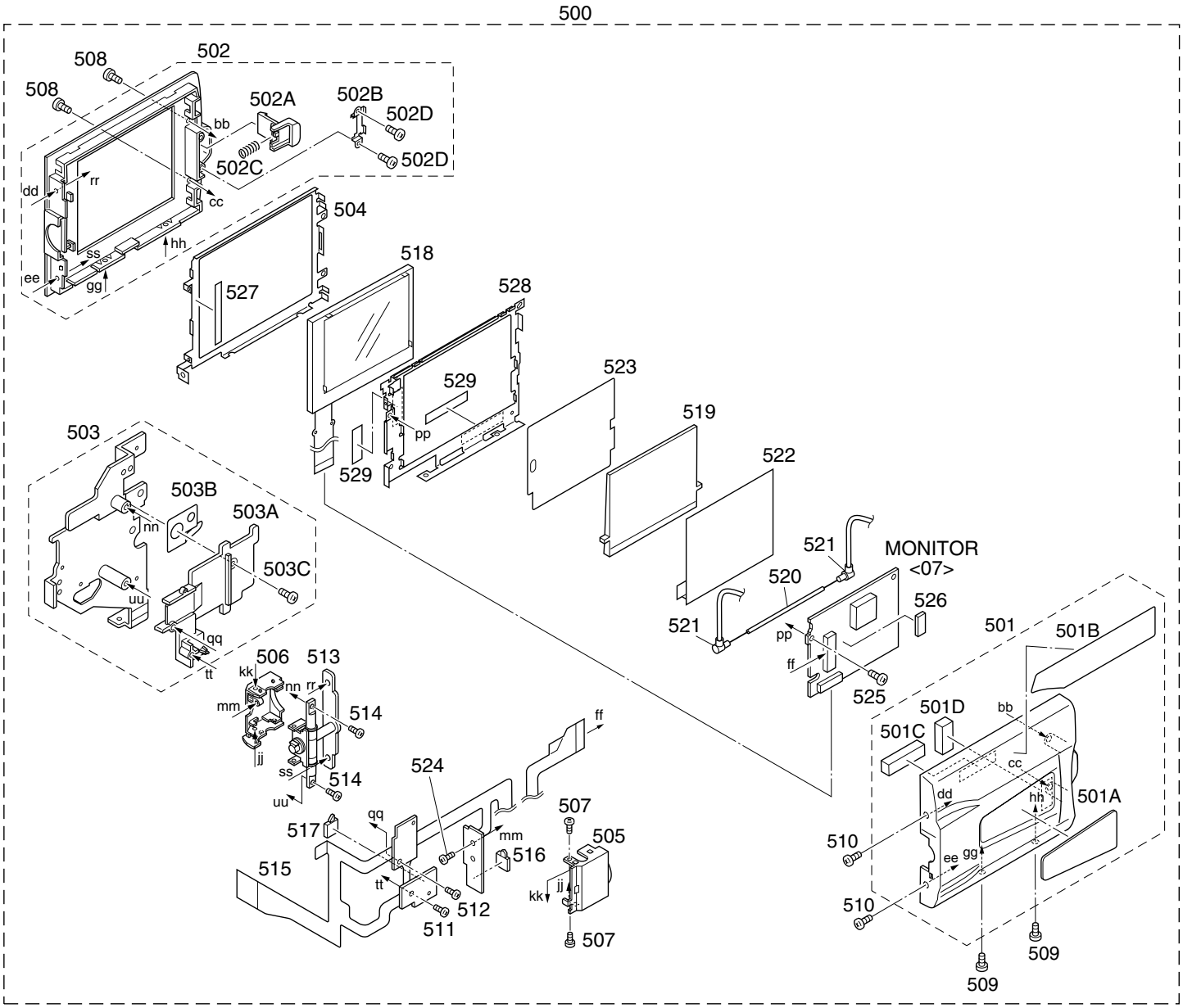
FINAL ASSEMBLY <M2>

		101	LY20694-010A	CASSETTE COVER(M)ASSY,A,B,C,G
			LY20694-011A	CASSETTE COVER(M)ASSY,F,H
			LY20694-012A	CASSETTE COVER(M)ASSY,D,E
			LY20815-001B	CASSETTE COVER(M)ASSY,J
		101A	LY40075-004A	LABEL/CAUTION
		101B	LY42883-001A	MARK
		101C	LY40559-001A	SHIELD SHEET
		101D	LY40076-001A	SPACER,X2
		102	QYSLSP2030D	SCREW,X2
		103	LY10257-050A	UPPER CASE(M),G
			LY10257-051A	UPPER CASE(M),B
			LY10257-052A	UPPER CASE(M),H
			LY10257-062A	UPPER CASE(M),A
			LY10257-063A	UPPER CASE(M),D,E
			LY10257-069A	UPPER CASE(M),C
			LY10257-070A	UPPER CASE(M),J
			LY10257-072A	UPPER CASE(M),F
		104	QYSLSP2030D	SCREW,X2
		105	QYSLSF2060D	SCREW,X2
		110	LY20684-005A	LOWER CASE ASSY,A,B,G
			LY20684-022A	LOWER CASE ASSY,C,D,E,F
			LY20684-023A	LOWER CASE ASSY,H,J
		110A	LY40081-001A	CAP
		110B	LY20682-001A	GRIP BELT
		110C	LY30018-003A	SPECIAL SCREW
		110D	QAS0061-001	SPEAKER
		110E	LY42764-001B	HOLDER(SPEAKER)
		110F	QYSLSF2050Z	SCREW
		111	LY31945-003A	COVER(JACK)
		112	LY31946-001A	COVER(JIG)
		113	QYSLSF2050Z	SCREW,X3
		114	QYSLSF2060D	SCREW
		115	QYSLSF2060D	SCREW
		116	QYSLSF2060D	SCREW,X4
		117	QYSLSF2060D	SCREW,X2
		118	QYSLSF2060D	SCREW
		125	LY20614-001C	TOP OPE UNIT,F
			LY20614-004C	TOP OPE UNIT,A
			LY20614-009C	TOP OPE UNIT,H,J
			LY20614-010C	TOP OPE UNIT,B,C,G
			LY20614-020B	TOP OPE UNIT,D,E
		126	QYSLSF2060D	SCREW,X2
		130	LY20615-005E	REAR UNIT,A,B,C,D,E,F,G
			LY20615-007B	REAR UNIT,H
			LY20764-010A	REAR UNIT,J
		131	QYSLSF2060D	SCREW,X3
		135	LY20683-034A	FRONT COVER ASSY,B,C,G
			LY20683-035A	FRONT COVER ASSY,H,J
			LY20683-038A	FRONT COVER ASSY,A
			LY20683-039A	FRONT COVER ASSY,D,E
			LY20683-054A	FRONT COVER ASSY,F
		135A	LY31937-001A	HOOD
		135B	LY31938-001A	COVER(HOOD)
		135C	LY31936-001A	RING
		135D	LY32482-001A	MICROPHONE
		135E	QYSLSF2060D	SCREW,X4
		135F	LY32040-001A	DC LIGHT,B,C,D,E,F,G,H,J
			LY30934-017A	COVER(LIGHT),A
		135G	LY32058-001A	STICKER(A),A
			LY32058-002A	STICKER(A),B,C,D,E,F,G
			LY32058-003A	STICKER(A),H,J
		135H	LY32060-003A	STICKER(C),H,J
			LY32060-005A	STICKER(C),A,B,C,D,E,F,G
		135J	LY30029-0B4A	SPACER(A),B,C,D,E,F,G,H,J
	⚠	135K	YQ44341-6	CAUTION LABEL,B,C,D,E,F,G,H,J
		136	QYSLSF2060D	SCREW,X3
		139	QYSPSTU1725M	SCREW
		140	LY20832-001B	FRAME ASSY,B,C,D,E,F,G,H,J
			LY20832-002B	FRAME ASSY,A
		140A	YQ31843	BASE
		140B	QYSLSF2060D	SCREW,X2
		140C	LY30029-0A4A	SPACER(A)
		140D	LY41082-001A	CUSHION(OP),X2
		140E	YQ43810-1-1	CONTACT(LIGHT),X2,B,C,D,E,F,G,H,J
		140F	WJM0259-001A	E-SI C WIRE C-F,FRAME-MAIN CN6,B,C,D,E,F,G,H,J
		141	LY32327-001A	SHIELD CASE(MAIN)
		142	QYSPSPU1720Z	SCREW
		143	QYSLSF2060D	SCREW
		144	QYSLSF2060D	SCREW
		145	WJT0072-001A	E-CARD WIRE,OP-MAIN CN15
		146	QAL0389-001	FPC,MAIN CN22-CCD CN5301
		147	LY20613-001B	ZOOM UNIT
		148	QYSLSF2060D	SCREW,X4
		149	LY41173-001A	SPECIAL SCREW,X2
		150	LY30018-050A	SPECIAL SCREW,X2
		151	QYSLSP2030D	SCREW
		155	LY31808-001C	CASSETTE HOUSING FINAL ASSY
		156	LY42722-003A	SCREW,X4
		157	LY30176-001A	CASSETTE COVER INSIDE
		158	LY31956-001A	BRACKET(CASSETTE COVER)
		159	LY31790-001A	FRONT FRAME ASSY
		159A	YQ44144-1-1	TAPE GUIDE
		160	SPSH1725M	SCREW,X2
		161	LY32326-001A	BRACKET(MECHA)
		162	LY42722-003A	SCREW,X2
		163	QYSLSF1750D	SCREW
		164	LY31807-001A	SIDE BRACKET L
		165	LY42722-003A	SCREW

– OPTICAL BLOCK SECTION –

		251	LY30948-003A	OP BLOCK ASSY
		251A	PTY30948-002	FOCUS MOTOR
		251B	PTY30948-301	ZOOM MOTOR
		251C	PTY30151-016	TAPPING SCREW,X9
		251D	PTY30948-006	IRIS MOTOR UNIT
		252	LY41757-001A	OPTICAL LPF
		253	LY31441-001A	SPACER RUBBER
		254	LY20346-001A	CCD SPACER
		255	LYH30374-002A	CCD BASE ASSY
		256	QYSPSGU2080Z	SCREW,X2
		257	LY30018-072A	SPECIAL SCREW

5.3 MONITOR ASSEMBLY <M5> [GR-AXM341U, SXM540UC]



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

MONITOR ASSEMBLY <M5>

⚠	500	LY20836-010A	MONITOR ASSY,SXM540UC
⚠		LY20836-012A	MONITOR ASSY,AXM341U
⚠	501	LY20834-005A	MONITOR COVER ASSY,AXM341U
⚠		LY20834-007A	MONITOR COVER ASSY,SXM540UC
	501A	LY32329-001A	PLATW(WINDOW),AXM341U
		LY32329-002A	PLATE(WINDOW),SXM540UC
	501B	LY32554-003A	STICKER(B),SXM540UC
		LY32554-004A	STICKER(B),AXM341U
	501C	LY30029-0R3A	SPACER(A)
	501D	LY30029-0R4A	SPACER(A)
	502	LY32035-001A	MONITOR CASE(3)ASSY
	502A	LY31954-001A	KNOB(LOCK)
	502B	LY42760-001A	BRACKET(LOCK)
	502C	LY30002-043A	COMPRESSION SPRING
	502D	LY30018-063A	SPECIAL SCREW,X2
	503	LY32034-003A	BRACKET(UPPER)ASSY
	503A	LY20652-003A	HOLDER
	503B	LY42761-001A	EARTH PLATE
	503C	QYSLSP2025D	SCREW
	504	LY32332-001A	SHIELD CASE(3)
	505	LY31939-001A	HINGE COVER(UPPER),SXM540UC
		LY31939-003A	HINGE COVER(UPPER),AXM341U
	506	LY31940-001A	HINGE COVER(LOWER)
	507	LY30018-0C9A	SPECIAL SCREW,X2
	508	LY30018-052A	SPECIAL SCREW,X2
	509	LY30018-0C9A	SPECIAL SCREW,X2
	510	LY30018-0C5A	SPECIAL SCREW,X2
	511	QYSLSF2040D	SCREW
	512	QYSLSP2070D	SCREW
	513	LY31957-001A	HINGE ASSY
	514	LY30018-090A	SPECIAL SCREW,X2
	515	QAL0391-001	FPC
	516	NSW0095-001X	DETECT SWITCH,REVERSE
	517	NSW0105-001X	DETECT SWITCH,OPEN
	518	QLD0213-001	LCD MODULE
	519	LY43391-001A	LIGHT SCREEN
	520	QLL0111-001	LAMP
	521	LY43394-001A	HOLDER,X2
	522	LY43395-001A	SHEET
	523	LY43363-001A	DIFFUSION SHEET(3)
	524	LY30018-063A	SPECIAL SCREW
	525	LY30018-0C9A	SPECIAL SCREW
	526	LY30016-049A	SPACER-A
	527	LY30029-0R6A	SPACER(A)
	528	LY32333-001A	LCD FRAME(3)
	529	LY30029-0R5A	SPACER(A),X2

JVC

GR-SXM340U,SXM740U

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No. 86656

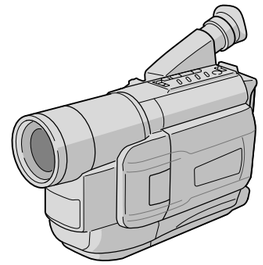
S40895-04

JVC

SERVICE MANUAL

COMPACT VHS CAMCORDER

GR-SXM340U,SXM740U



S-VHS C

Super VHS

Super VHS ET

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-SXM745)*

Camcorder

General

Format	:	S-VHS/VHS NTSC standard
Power source	:	DC 11 V ⎓ (Using AC Adapter) DC 6 V ⎓ (Using battery pack)
Power consumption		
Viewfinder on	:	4.0 W
LCD monitor on	:	4.5 W
Video light	:	3.0 W
Signal system	:	NTSC-type
Video recording system		
Luminance	:	FM recording
Color	:	Converted sub-carrier direct recording Conforms to VHS standard
Cassette	:	S-VHS C / VHS C cassette
Tape speed		
SP	:	33.35 mm/sec. (1-5/16 ips)
EP	:	11.12 mm/sec. (7/16 ips)
Recording time (max.)		
SP	:	40 minutes
EP	:	120 minutes (with TC-40 cassette)
Operating temperature	:	0°C to 40°C (32°F to 104°F)
Operating humidity	:	35% to 80%
Storage temperature	:	–20°C to 50°C (–4°F to 122°F)
Weight	:	Approx. 930 g (2.1 lbs)
Dimensions (W x H x D)	:	200 mm x 112 mm x 118 mm (7-7/8" x 4-7/16" x 4-11/16") (with the LCD monitor closed and with the viewfinder fully tilted downward)
Pickup	:	1/4" format CCD
Lens	:	F1.6, f = 3.9 mm to 62.4 mm, 16:1 power zoom lens with auto iris and macro control, filter diameter 40.5 mm
Viewfinder	:	Electronic viewfinder with 0.5" black/white CRT
White balance adjustment	:	Auto/Manual adjustment
LCD monitor	:	3.5" diagonally measured, LCD panel/TFT active matrix system
Speaker	:	Monaural

Connectors

Video	:	1 V (p-p), 75 Ω unbalanced, analog output (via Video output connector)
Audio	:	300 mV (rms), 1 kΩ analog output (via Audio output connector)
Digital	:	ø3.5 mm, 4-pole, mini-head jack
S-Video	:	**Y** : 1 V (p-p), 75 Ω, analog output **C** : 0.29 V (p-p), 75 Ω, analog output

AC Adapter

Power requirement		
U.S.A. and Canada	:	AC 120 V∿, 60 Hz
Other countries	:	AC 110 V to 240 V∿, 50 Hz/60 Hz
Output	:	DC 11 V ⎓, 1 A

Optional Accessories

- **Battery Packs BN-V12U, BN-V20U, BN-V400U**
- **A/V (Audio/Video) Cable**
- **Compact S-VHS (S-VHS C) Cassettes ST-C-40/30/20**
- **Compact VHS (VHS C) Cassettes TC-40/30/20**
- **Active Carrying Bag CB-V7U**

Some accessories are not available in some areas. Please consult your nearest JVC dealer for details on accessories and their availability.

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

Printed in Japan

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The following table lists the differing points between Models GR-SXM340U and GR-SXM740U in this serise.

	GR-SXM340U	GR-SXM740U
BODY COLOR	METALLIC GRAY	SLIVER
LCD MONITOR	2.5”	3.5”
PB ZOOM FUNCTION	NOT USED	USED
A DUBBING FUNCTION	NOT USED	USED
V INSERT FUNCTION	NOT USED	USED

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

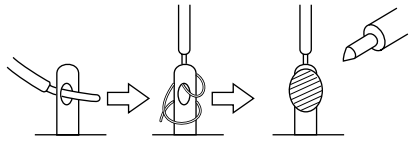


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

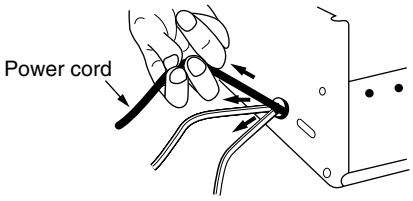


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission.
    Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.
    Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) Connector part number : E03830-001
    2) Required tool : Connector crimping tool of the proper type which will not damage insulated parts.
    3) Replacement procedure
    (1) Remove the old connector by cutting the wires at a point close to the connector.
    Important : Do not reuse a connector (discard it).

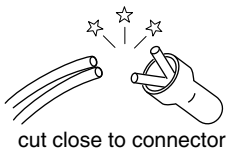


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

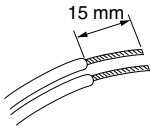


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

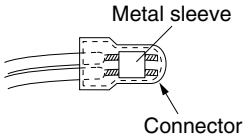


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

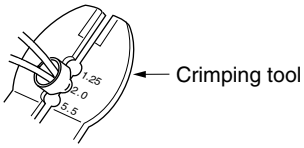


Fig.6

(5) Check the four points noted in Fig.7.

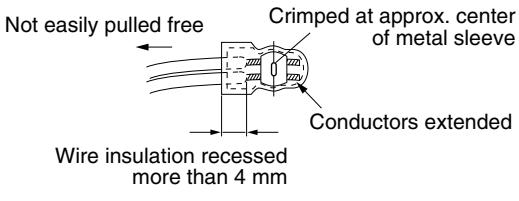

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

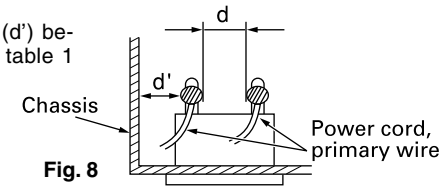


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

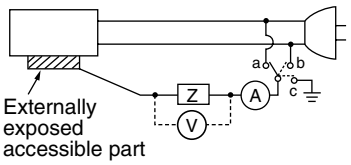


Fig. 9

5. Grounding (Class 1 model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

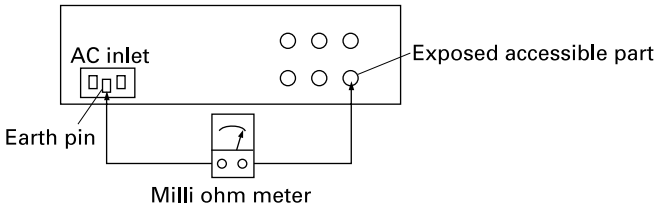


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

1.1 SERVICE CAUTIONS

1.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. In general, chip parts such as resistor, shorting jumpers (0-ohm resistor), ceramic capacitors, diodes, etc. can not be reused after they were once removed.
4. When installing parts, be careful not to do with other parts as well as not to damage others.
5. When removing ICs, be careful not to damage circuit patterns.
6. Tighten screws properly during the procedures. Unless specified otherwise, tighten screws at torque of 0.196 N•m (2.0 kgf•cm).

1.1.2 How to read the disassembly and assembly

(For Cabinet Parts)

STEP No.	PART	Fig. No.	REMOVAL *UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER
①	CASETTE COVER ASSEMBLY	C1	2(S①)
②	UPPER CASE	C2	2(S②), 2(L②)
③	LOWER CASE ASSEMBLY (Incl. E.VF ASSEMBLY)	C3	9(S③), (L③a), (L③b) *CN③a,CN③b,COVER(JACK)

(1) (2) (3) (4)

(1) Order of steps in Procedure
When reassembling, preform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

(2) Part to be removed or installed.

(3) Fig. No. showing Procedure or Part Location.
C = Cabinet
CA = Camera
D = Deck

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.
2(S③) = 2 Screws (S③)
CN = Connector

1.1.3 Connection of the wires

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

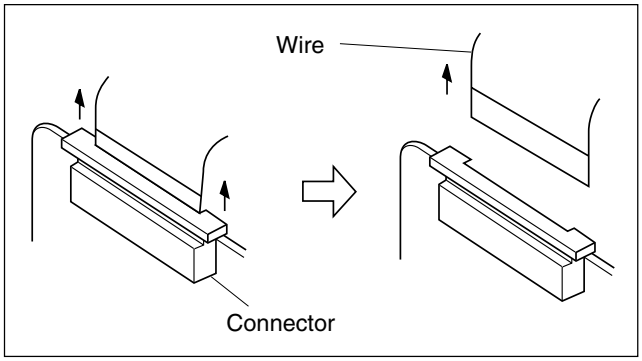
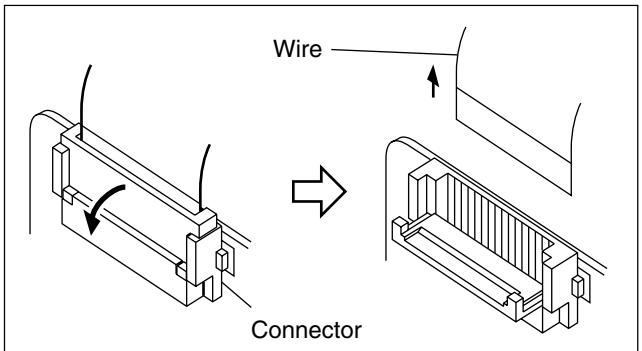


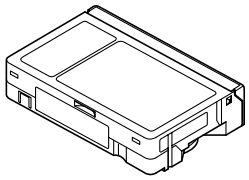
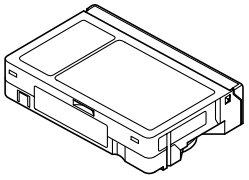
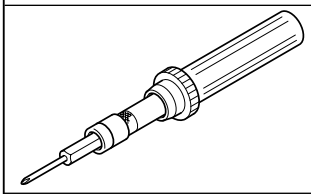
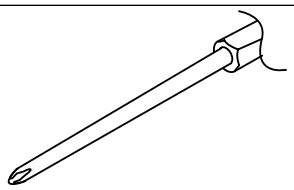
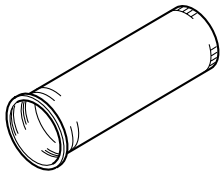
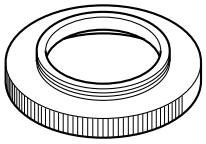
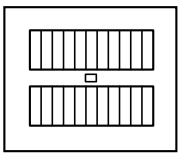
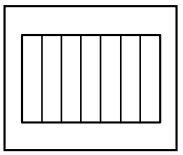
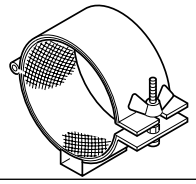
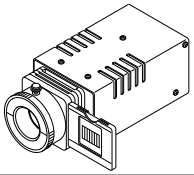
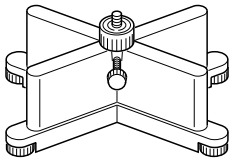
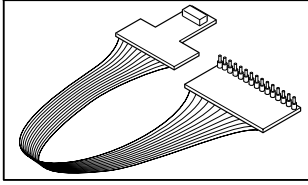
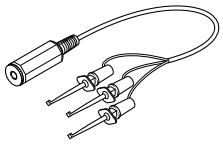
Fig. 1-1-1



NOTE: *After removing the wire, return the stopper to its original position, because it is apt to come off if it is left open.*

Fig. 1-1-2

1.2 TOOLS REQUIRED FOR ADJUSTMENTS

1 Alignment tape (for SP interchangeability) MHP-C	2 Alignment tape (for N. SP PB Y/C level) MHV-2C
	
3 Torque driver YTU94088	4 Bit YTU94088-003
	
5 INF adjustment lens YTU92001B	6 Conn. ring YTU92001-111
	
7 Gray Scale Chart YTU94133A	8 Color Bar Chart YTU94133C
	
9 INF lens holder YTU94087	10 Light box Assembly YTU93096A
	
11 Camera stand YTU93079	12 Extension connector YTU94145B-30
	
13 Jig connector cable YTU93106A	14 Communication cable YTU93107A
	

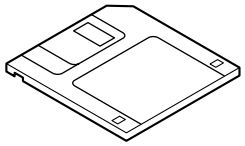
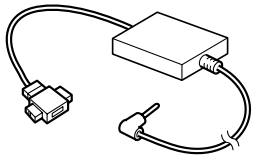
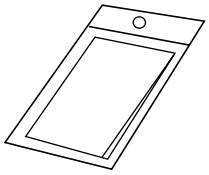
15 Service support system YTU94057-56	16 PC cable QAM0099-002
	
17 Cleaning cloth KSMM-01	
	

Table 1-2-1

1,2. Alignment tape
To be used for check and adjustment of interchangeability of the mechanism.
(Video: Color bar signal, Audio: Non-signal)

3. Torque driver
Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.

4. Bit
This bit is slightly longer than those set in conventional torque drivers.

5. INF adjustment lens
To be used for adjustment of the camera system.

6. Conn. ring
The connector ring to attach the INF. lens to the head of the OP lens.

7. Gray scale chart
To be used for adjustment of the camera system.

8. Color bar chart
To be used for adjustment of the camera system.

9. INF lens holder
To be used together with the camera stand (11) for operating the VideoMovie in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring.

10. Light box assembly
To be used for adjustment of the camera system.

11. Camera stand
To be used together with the INF adjustment lens holder.

12. Extention connector
To be used to JIG connector cable

13. JIG connector cable
Connected to CN25 of the main board and used for measuring error rates, etc.

14. Communication Cable
Connect the Communication cable between the PC cable and Jig connector cable when performing a PC adjustment.

15. Service support system
To be used for adjustment with a personal computer.

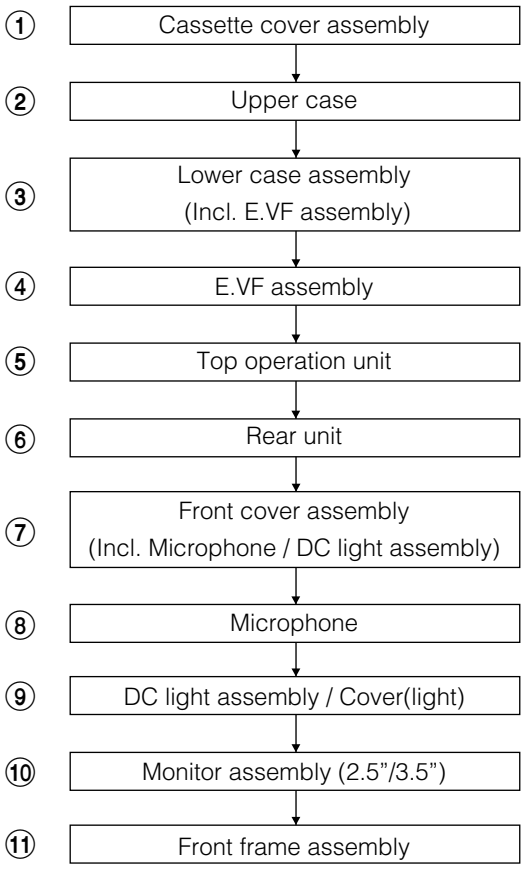
16. PC cable
To be used to connect the VideoMovie and a personal computer with each other when a personal computer isused for adjustment.

17. Cleaning cloth
Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

1.3 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.


① Cassette cover assembly
② Upper case
③ Lower case assembly (Incl. E.VF assembly)
④ E.VF assembly
⑤ Top operation unit
⑥ Rear unit
⑦ Front cover assembly (Incl. Microphone / DC light assembly)
⑧ Microphone
⑨ DC light assembly / Cover(light)
⑩ Monitor assembly (2.5”/3.5”)
⑪ Front frame assembly

NOTE : *For screw management, refer to the table appearing in the section “1.9 SERVICE NOTE” (page 1-16).*

1.3.2 Disassembly method

STEP /LOC No.	PART	Fig. No.	REMOVAL *UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER
①	CASETTE COVER ASSEMBLY	C1	2(S①)
②	UPPER CASE	C2	2(S②), 2(L②)
③	LOWER CASE ASSEMBLY (Incl. E.VF ASSEMBLY)	C3	9(S③), (L③a), (L③b) *CN③a,CN③b,COVER(JACK)
④	E.VF ASSEMBLY	C4	3(S④)
⑤	TOP OPERATION UNIT	C5	2(S⑤),(L⑤a),(L⑤b),2(L⑤c), *CN⑤a
⑥	REAR UNIT	C6	3(S⑥),(L⑥a),(L⑥b),*CN⑥a
⑦	FRONT COVER ASSEMBLY (Incl. MICROPHONE / DC LIGHT ASSEMBLY)	C7	2(S⑦a),(S⑦b),(L⑦a),(L⑦b), *CN⑦a
⑧	MICROPHONE		(S⑦a)
⑨	DC LIGHT ASSEMBLY COVER (LIGHT)		2(L⑦c)
⑩	MONITOR ASSEMBLY	C8	2(S⑧a),(S⑧b),*CN⑧a
		C9	2(S⑨a),(S⑨b),(S⑨c)
		C10	2(S⑩a),2(S⑩b),2(S⑩c),(L⑩a),(L⑩b), (L⑩c)
		C11a,b	(S⑪),(L⑪a),*CN⑪a,CN⑪b
		C12	2(S⑫a),(S⑫b),2(L⑫a)
⑪	FRONT FRAME ASSEMBLY	C13	2(S⑬)

List of Abbreviations:
2(S①)=2 screws (S①)
4(L①a)=4 Locking Tabs
CN=Connector

Reference Notes:
<NOTE 1>
Destination of connectors

Note : *Two kinds of double-arrows in connection tables respectively show kinds of connector/wires.*
⇔ : Flat wire
↔ : Wire

Con-nector	No.of Pins	Connector		
CN③a	2	SPEAKER	↔	MAIN CN27
CN③b	3	E.VF (B/W)	↔	MAIN CN12
CN⑤a	12	TOP OPERATION UNIT	⇔	MAIN CN18
CN⑥a	13	REAR UNIT	⇔	MAIN CN28
CN⑦a	2	MIC	↔	MAIN CN8
CN⑧a	25	MONITOR ASSEMBLY	⇔	MAIN CN16
CN⑪a	28	MONITOR CN7601	⇔	T. HINGE
CN⑪b	24	MONITOR CN7602	⇔	LCD MODULE

<NOTE 2, 3>

(1) The FPC assembly should be winded around the hinge assembly by two and half turns so that the wire to be connected to the monitor board assembly is positioned inside.

(2) The upper and lower hinge covers should be mounted so carefully the any wire is not caught into either of the covers.

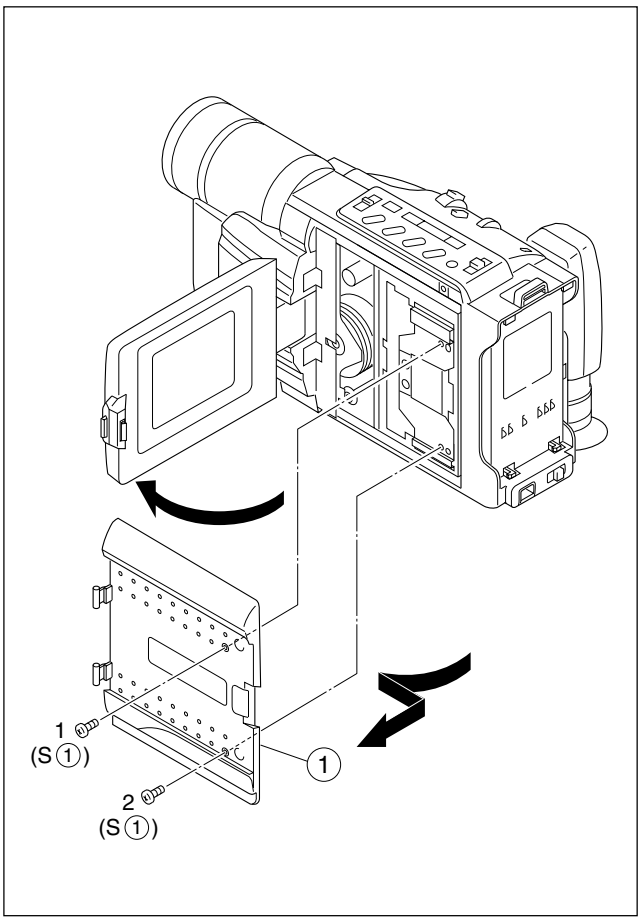


Fig. C1

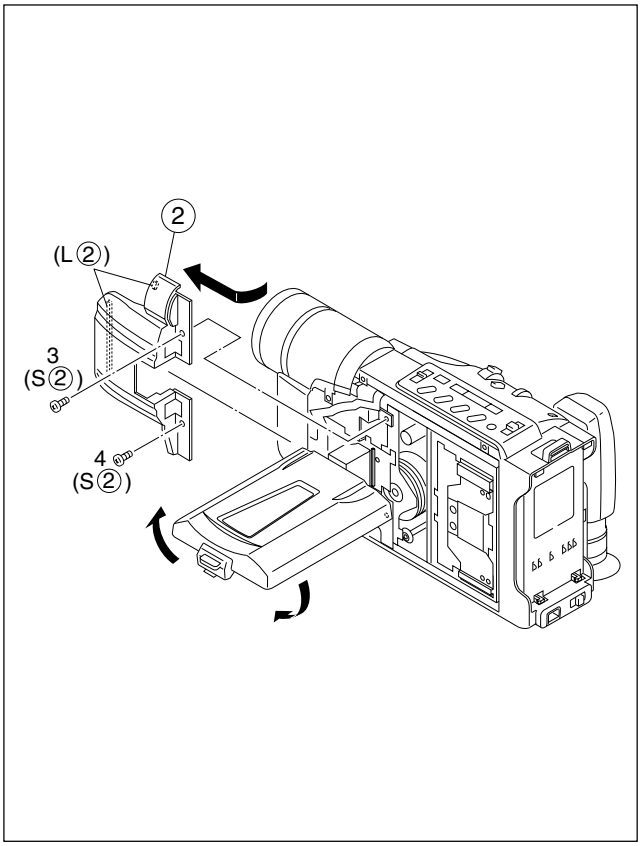


Fig. C2

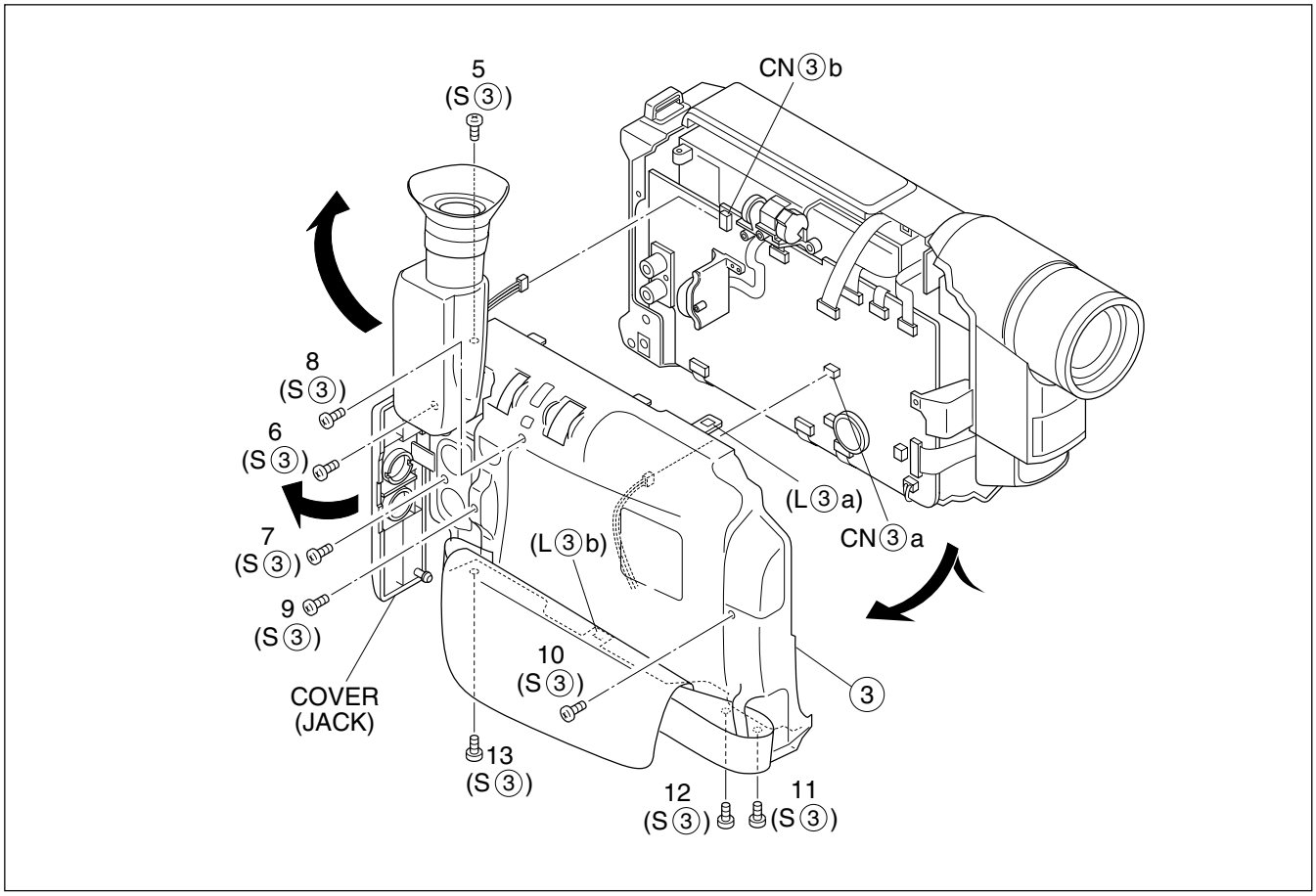


Fig. C3

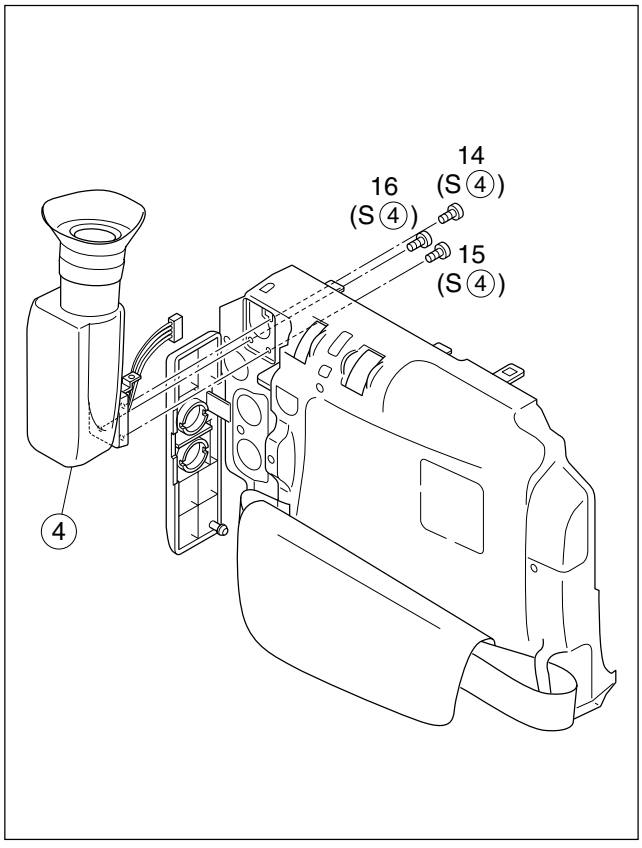


Fig. C4

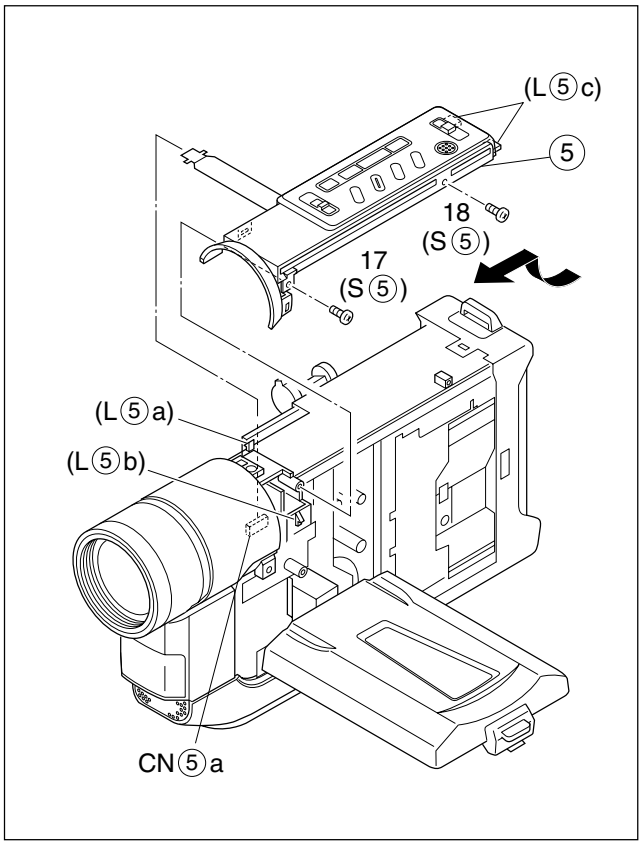


Fig. C5

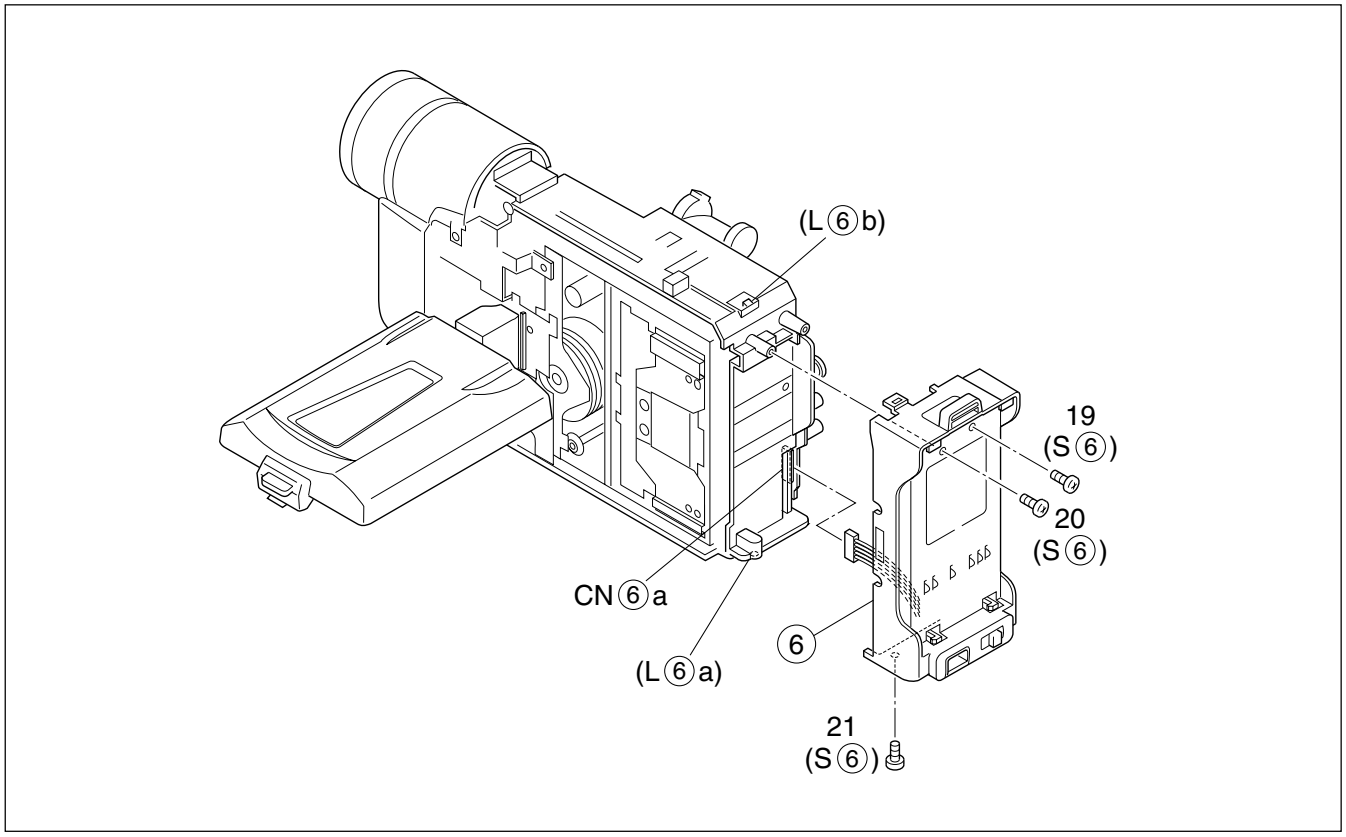

(L⑥b)
19
(S⑥)
20
(S⑥)
CN⑥a
(L⑥a)
6
21
(S⑥)

Fig. C6

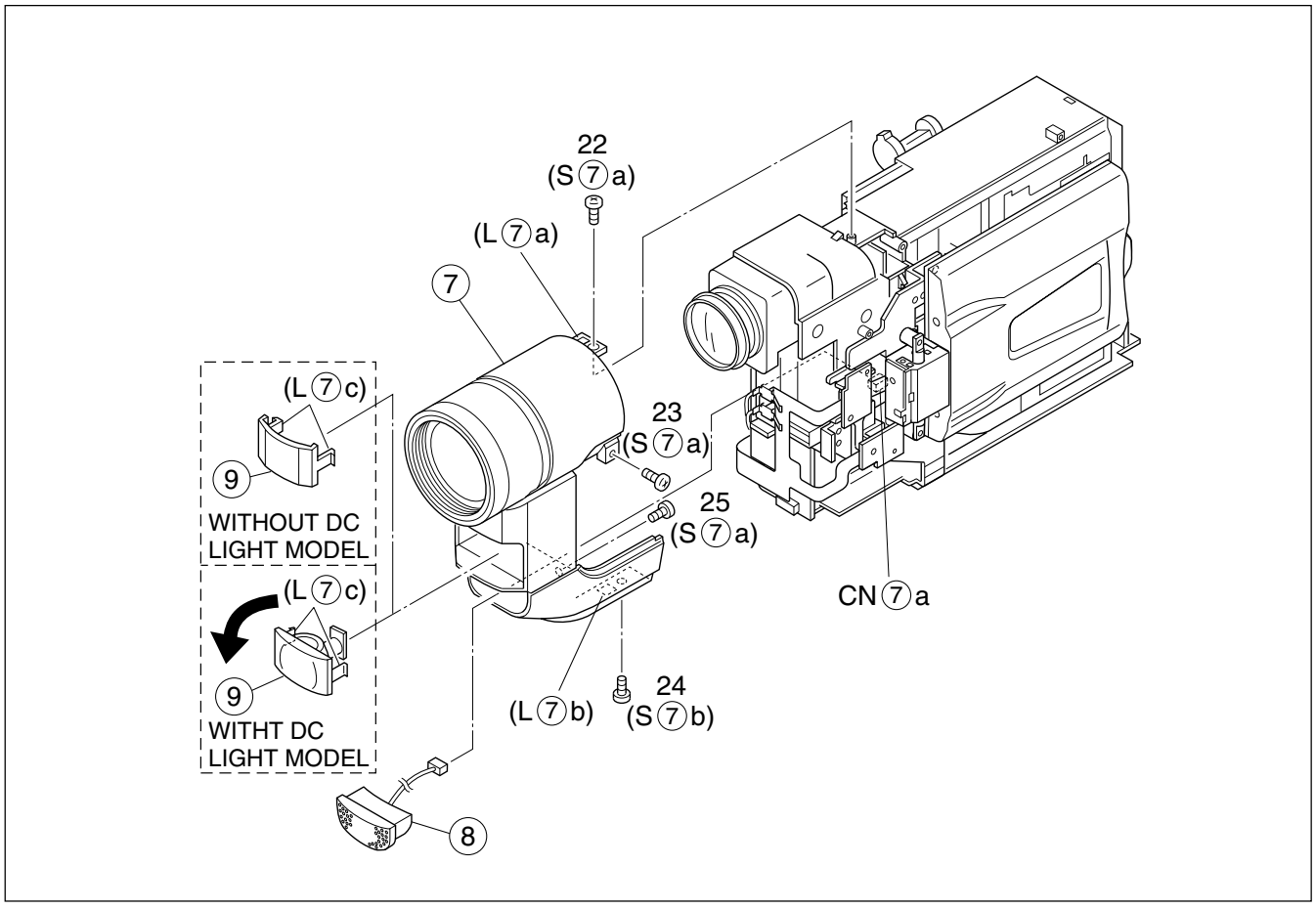

22
(S⑦a)
(L⑦a)
7
(L⑦c)
9
WITHOUT DC
LIGHT MODEL
(L⑦c)
9
WITHT DC
LIGHT MODEL
23
(S⑦a)
25
(S⑦a)
CN⑦a
(L⑦b)
24
(S⑦b)
8

Fig. C7

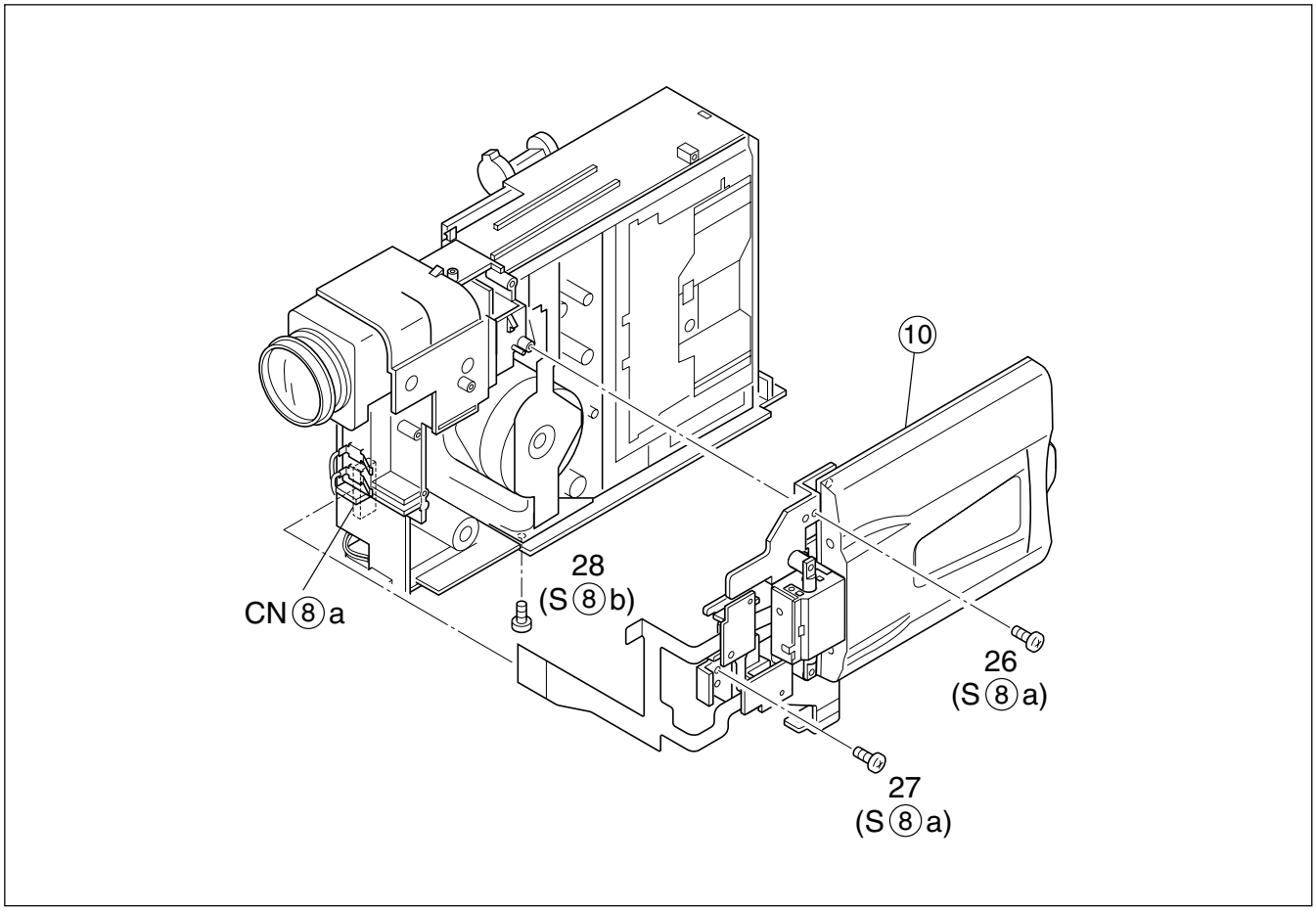


Fig. C8

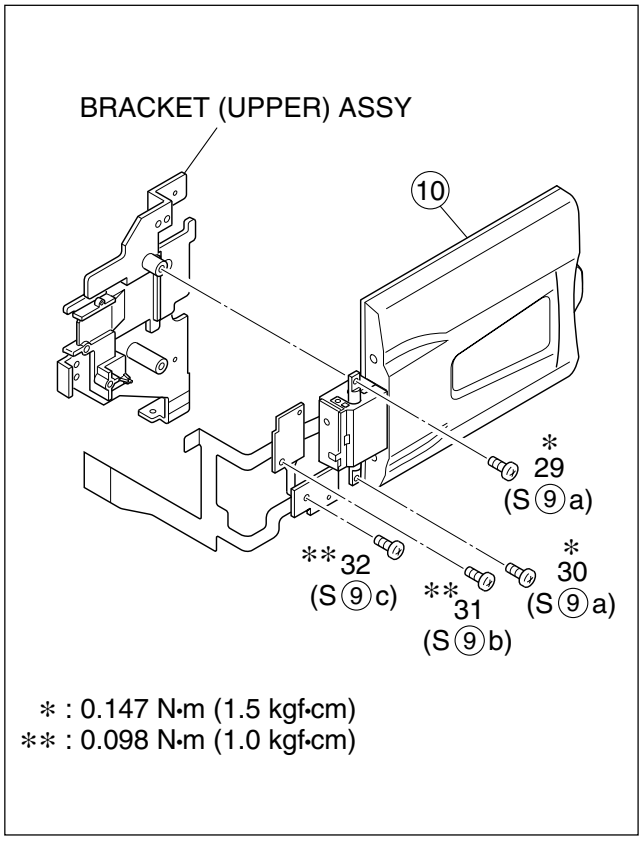


Fig. C9

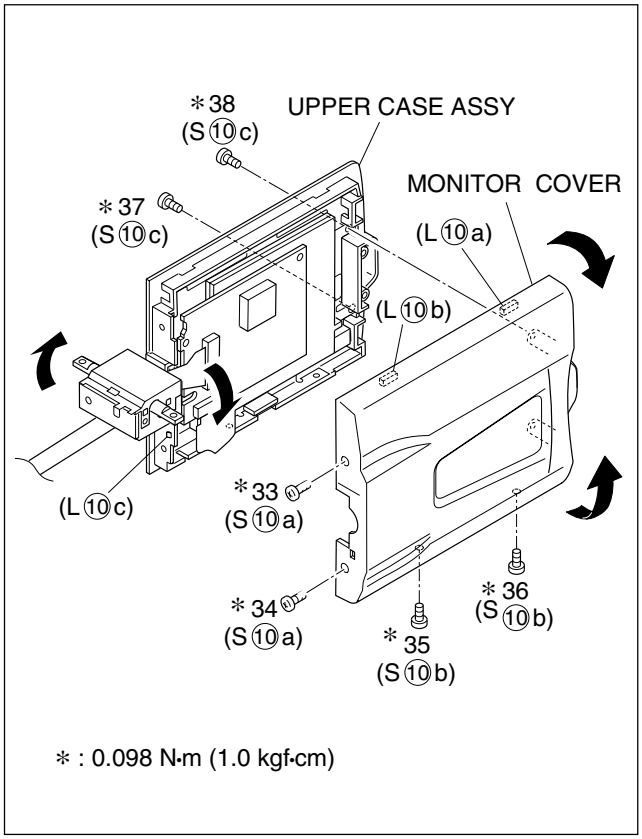


Fig. C10

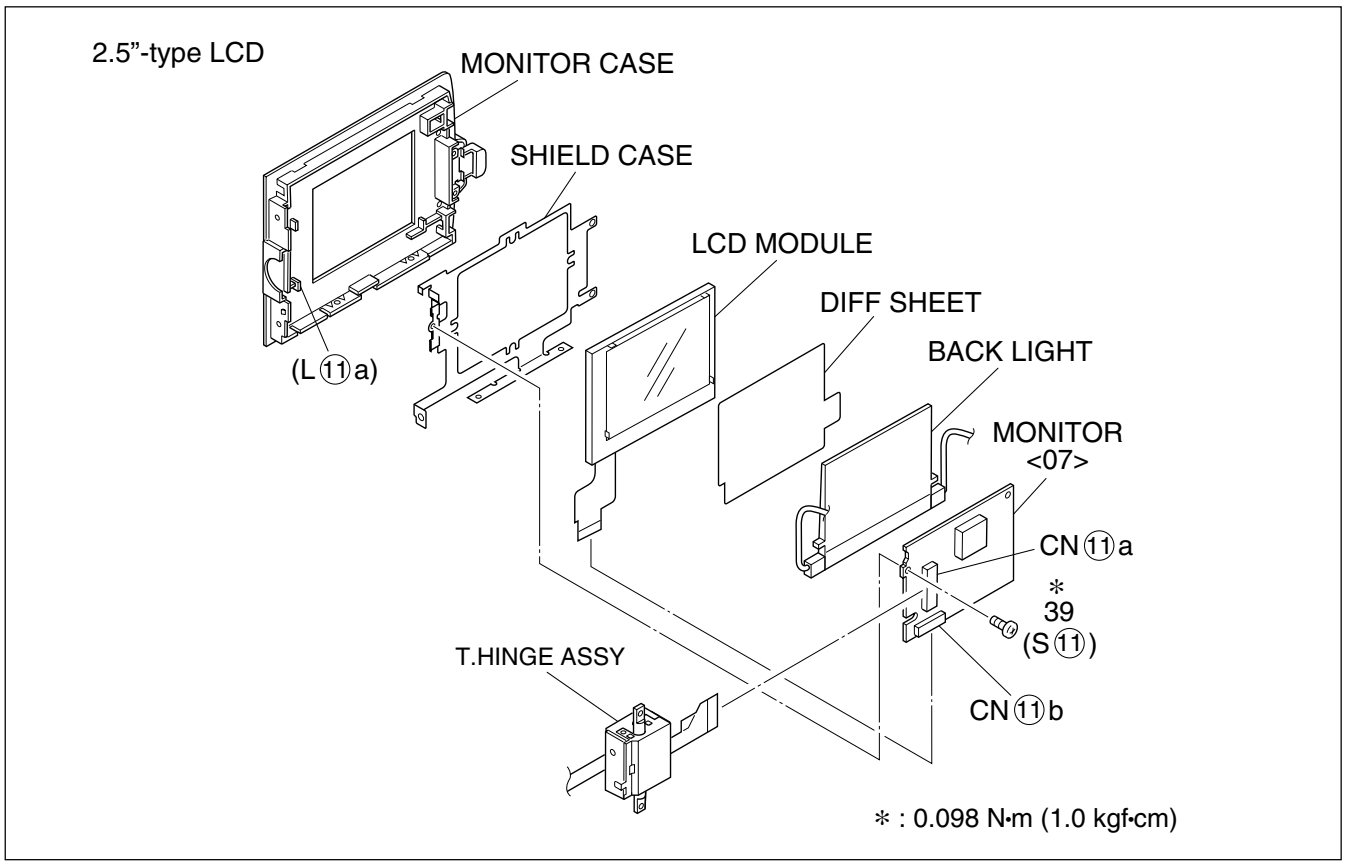


Fig. C11a

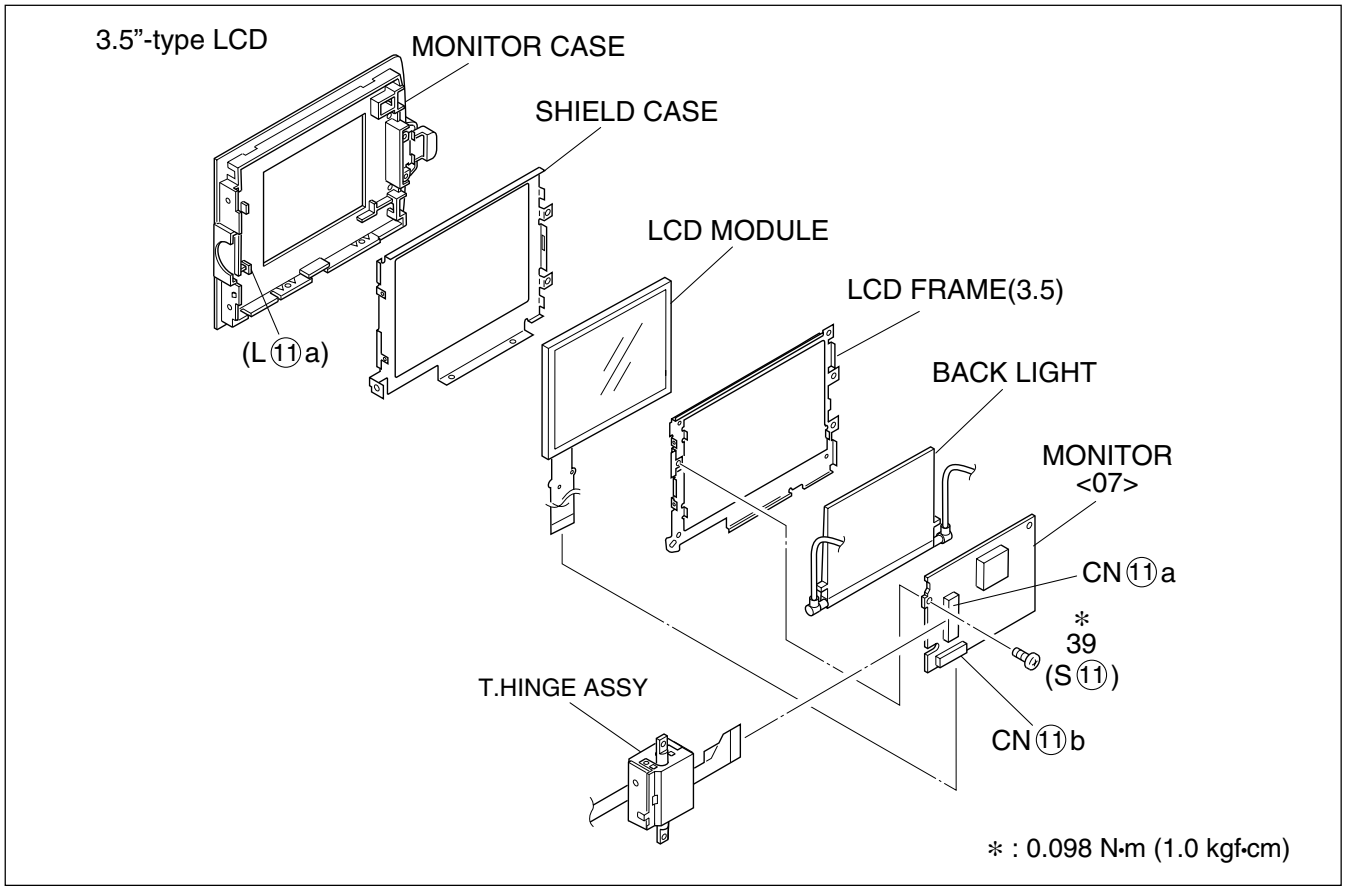


Fig. C11b

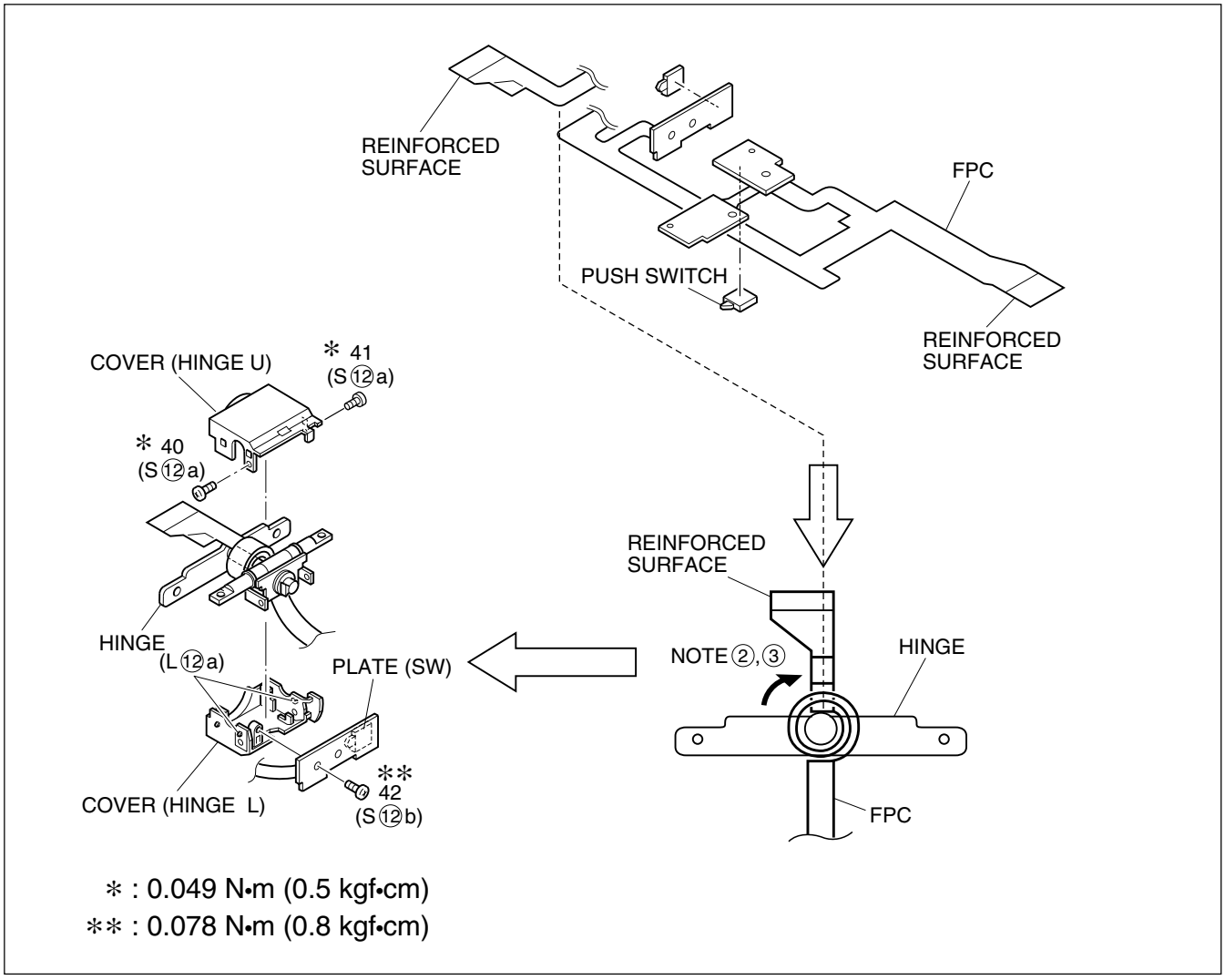


Fig. C12

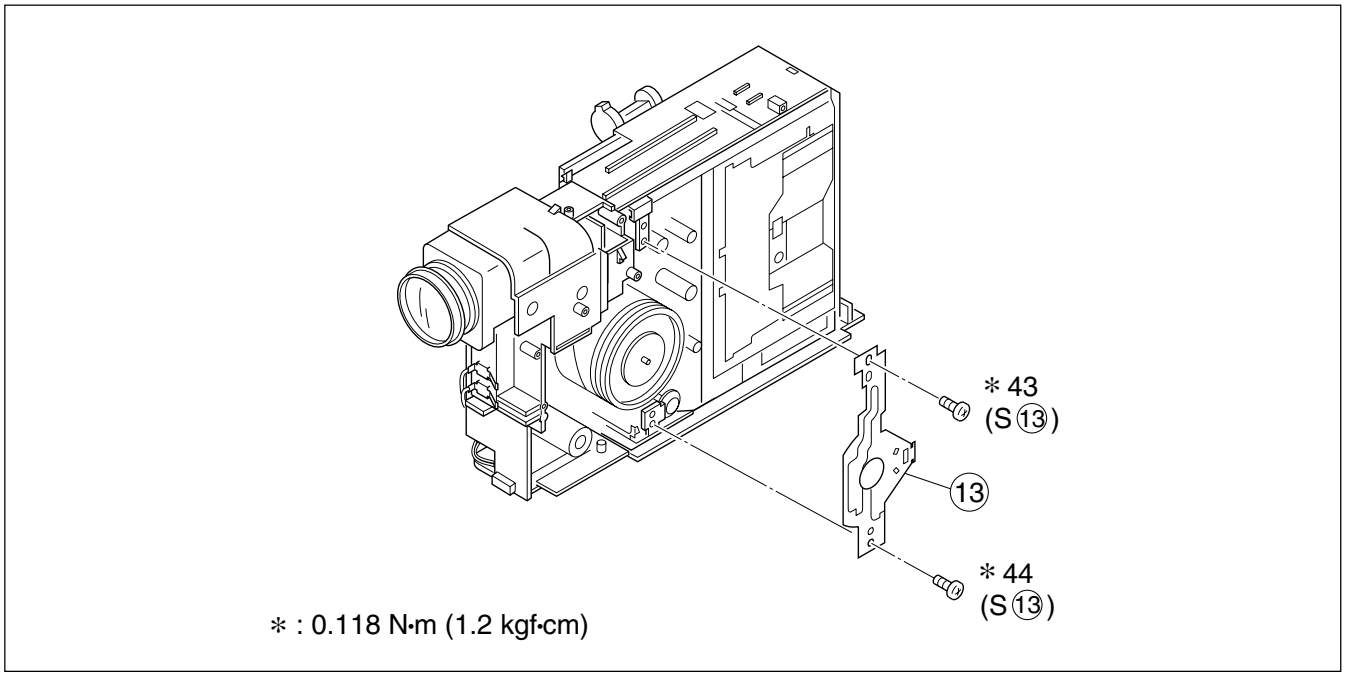


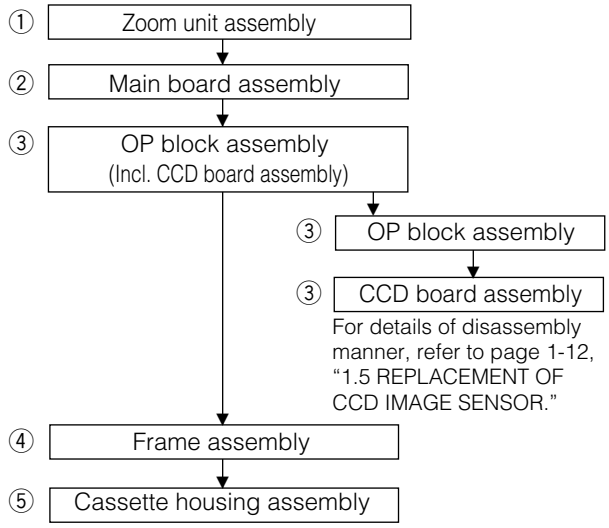
Fig. C13

1.4 DISASSEMBLY/ASSEMBLY OF CAMERA SECTION AND DECK SECTION

1.4.1 Flowchart of disassembly

The following flowchart shows the disassembly of the camera section and deck section. When assembly of the camera section and deck section, follow this flowchart in the reverse order.

<Camera section/Deck section>


① Zoom unit assembly
② Main board assembly
③ OP block assembly
(Incl. CCD board assembly)
③ OP block assembly
③ CCD board assembly
For details of disassembly manner, refer to page 1-12, "1.5 REPLACEMENT OF CCD IMAGE SENSOR."
④ Frame assembly
⑤ Cassette housing assembly

1.4.2 Disassembly method

STEP /LOC No.	PART	Fig. No.	REMOVAL *UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER
①	ZOOM UNIT ASSEMBLY	D1	4(S①),(L①a),*CN①a
②	MAIN BOARD	D2	2(S②),(L②a) *CN②a,*CN②b,*CN②c,CN②d, CN②e,*CN②f,*CN②g,*CN②h,*CN②j
③	OP BLOCK ASSEMBLY (Incl. CCD BOARD ASSEMBLY)	D3	2(S③),CUSHON (OP)
④	FRAME ASSEMBLY	D4	2(S④a),2(S④b),(S④c)
⑤	CASSETTE HOUSING ASSEMBLY	D5	4(S⑤)

List of Abbreviations:
2(S①)=2 screws (S①)
4(L①a)=4 Locking Tabs (L①a)
CN=Connector

Reference Notes:
<NOTE 1>
Destination of connectors

Note : *Two kinds of double-arrows in connection tables respectively show kinds of connector/wires.*
⇔ : Flat wire
↔ : Wire

Con-nector	No.of Pins	Connector		
CN①a	14	MAIN CN13	⇔	ZOOM UNIT
CN②a	14	MAIN CN2	⇔	SENSOR
CN②b	11	MAIN CN5	⇔	VIDEO/FLY. E HEAD
CN②c	10	MAIN CN1	⇔	DRUM MOTOR
CN②d	2	MAIN CN4	↔	LOADING MOTOR
CN②e	2	MAIN CN6	↔	DC LIGHT
CN②f	22	MAIN CN15	⇔	OP BLOCK
CN②g	14	MAIN CN22	⇔	CCD
CN②h	11	MAIN CN7	⇔	A/C HEAD
CN②i	18	MAIN CN3	⇔	CAPSTAN MOTOR

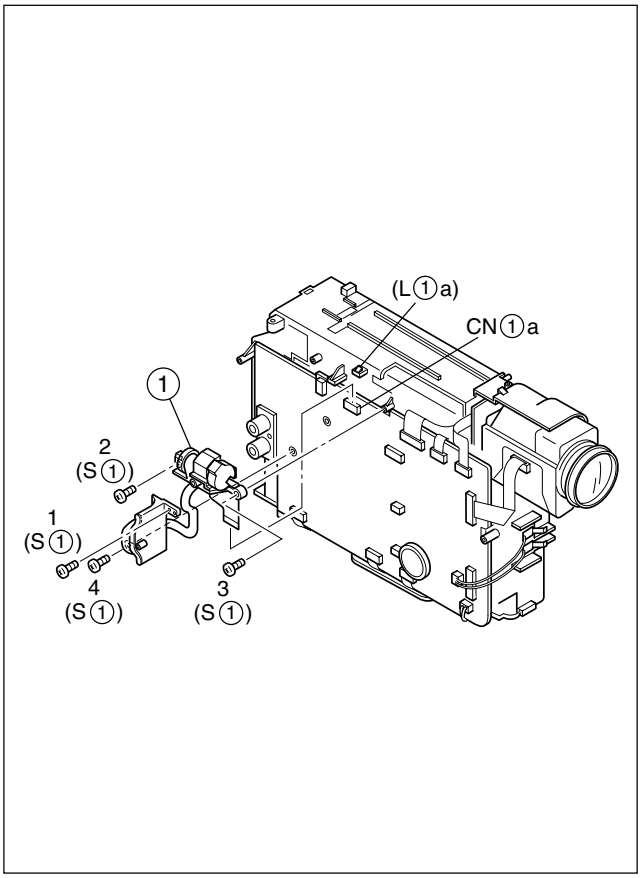


Fig. D1

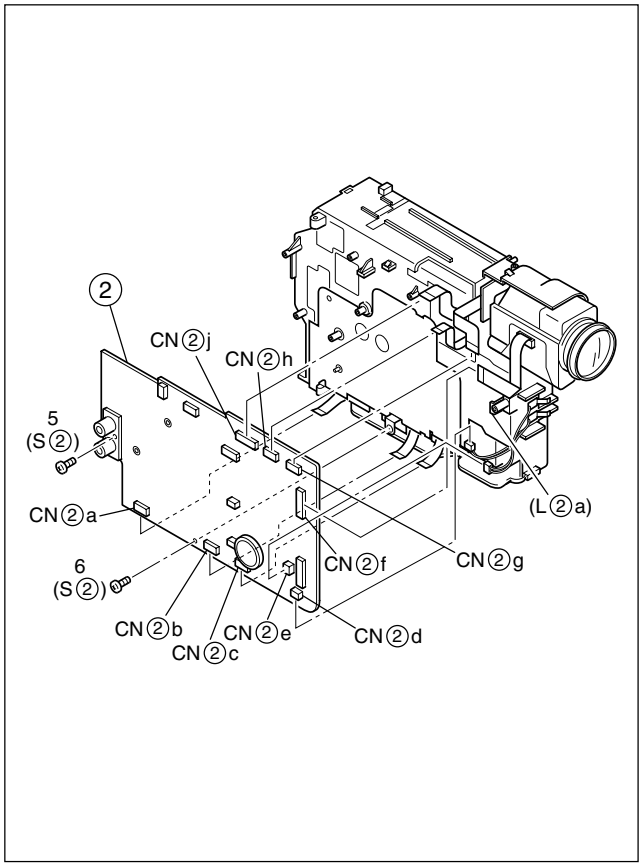


Fig. D2

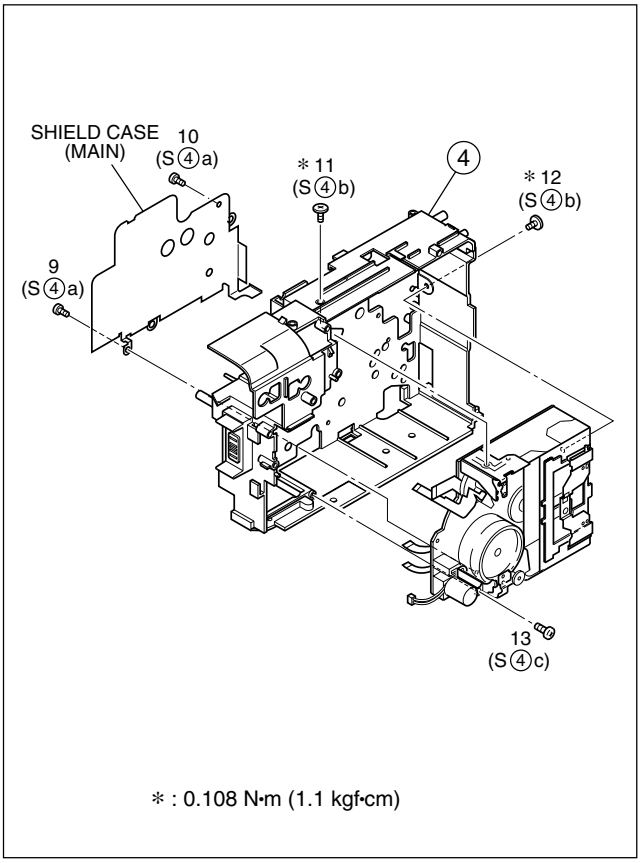


Fig. D4

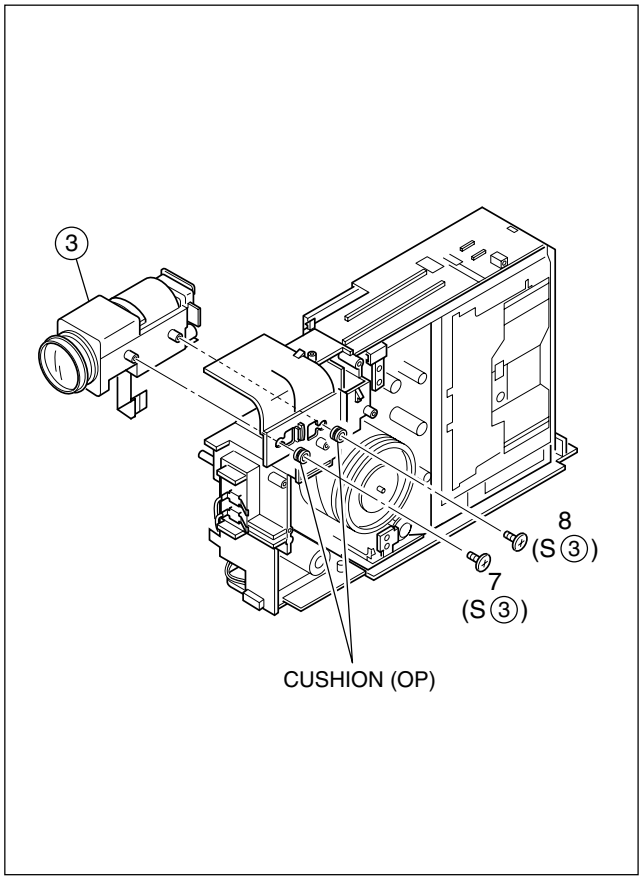


Fig. D3

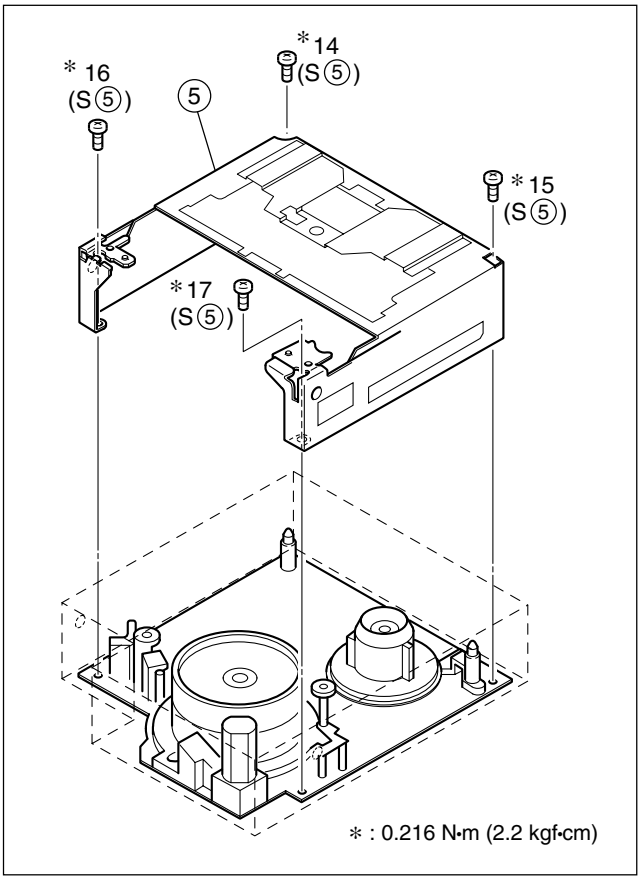


Fig. D5

1.5 REPLACEMENT OF CCD IMAGE SENSOR

Notes:

- *Pay the most careful attention to the transparent glass and optical LPF of the CCD image sensor so a not the soil and damage them. If something is soiled with finger-prints, etc., gently clean it with silicon-processed paper/cloth or chamois.*
- *When the CCD image sensor is shipped from the factory, there are protection seals applied onto the transparent glass. Leave the protector as it is, and take it off just before assembling the CCD image sensor to the OP block.*

1.5.1 Removal of CCD image sensor

1. Remove two screws (1, 2) securing the CCD base assy, and disassemble the CCD spacer, the optical LPF, spacer rubber.

1.5.2 Installation of new CCD image sensor

1. Remove the protection seal from a new CCD image sensor. Next, put the optical LPF, spacer rubber, CCD spacer on the CCD image sensor as they are piled up in this order. At that time, make sure of orientation of each item refering to the following table (see Fig. 1-5-1).

Part Name	Orientation
CCD image sensor	Mark is on the right viewed as indicated by the arrow ⓐ .
Spacer rubber	IC side is horizontal.
Optical LPF	Marks are on the left and bottom viewed as indicated by the arrow ⓐ .

2. Fix the CCD base assy to OP block with the two screws (1, 2) . At that time, be careful of the orientation.
3. After completion of all P.C. boards to the camera section, observe the monitor to confirm no vignetting caused by the bodytube, rings, lens hood, etc. If no vignetting is observed, it can be said that image's parallel, horizontality and centering are correct.

1.5.3 Replacement of CCD board assy

1. Remove one screw (3).
2. Unsolder at the fourteen points on the CCD board assy.

Note: *1. Remove the screw (3) only when the CCD board assy needs replacement.*
2. When installing a new CCD board assy, carry out the above-mentioned procedure in the reverse order.

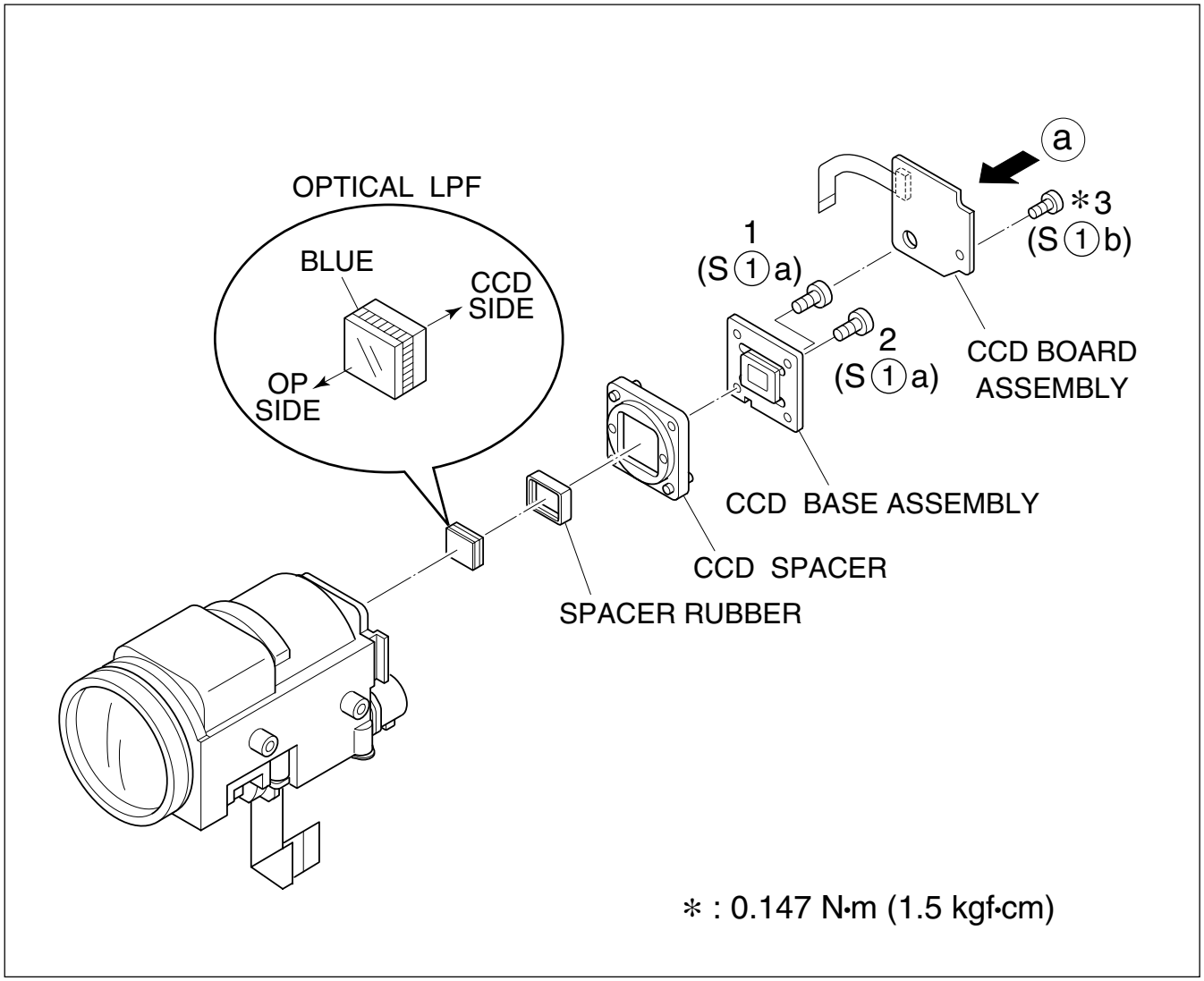


Fig. 1-5-1

1.6 TAKE OUT CASSETTE TAPE

In the event that the set enters the emergency mode as it is loaded with a cassette tape and the cassette tape cannot be ejected with the EJECT button, manually, take it out of the set according to the following procedure.

Note:

- *If the mechanism comes into the unloading mode as the cassette tape is not held by hand, it results in tape damage.*

1. Disconnect the set from the power source.
2. Remove the cassette cover assembly, Upper case, Lower case assembly, Top operation unit, Front cover assembly, Monitor assembly (See Fig. C1, C2, C3, C5, C7 and C8, Pages 1-4 to 1-7).
3. Connect a jumper wire to each pole of the loading motor as shown by the magnified view (Fig. 1-6-1)
4. While holding down the cassette housing by hand, connect the jumper wires to a battery to run the mechanism to the EJECT position four unloading. If this unloading operation is performed as the cassette housing is not held down by hand, the front lid of the cassette may damage the tape when it is ejected.
5. For taking in the slack of the tape, run the mechanism to the EJECT position as the front lid of the cassette is left open, and turn the take-up gear in the forward direction to wind up the tape. After confirming that the tape has completely been wound up and the supply reel is idling, take the cassette tape out of the cassette housing.

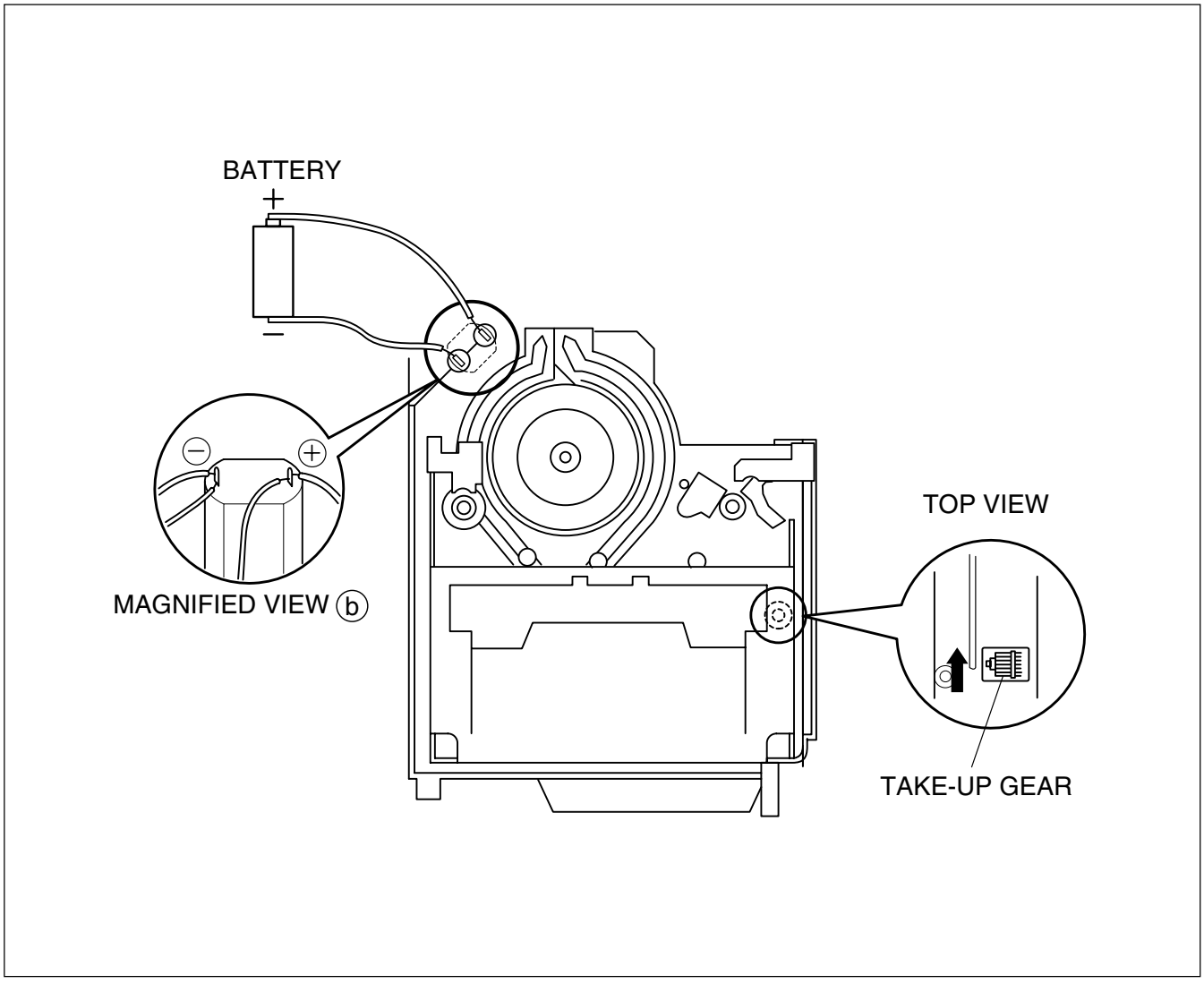


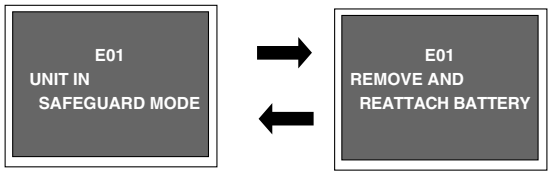
Fig. 1-6-1

1.7 EMERGENCY DISPLAY

Whenever some abnormal signal is input to the mechacon CPU, an error number (E01, as an exam-ple) is displayed in the electronic view finder.
In every error status, such the message as shown below alternately appear over and over.

- In an emergency mode, all operations except turning on/off the POWER switch are ineffectual.

Example (in case of the error number E01):



E. VF	Symptom	Mode when observed	Resulting mode
E07	Short circuit of capstan MDA	Power ON	Power OFF
E06	CAPSTAN FG input absent	EDIT	Power OFF
E04	DRUM FF input absent	DRUM rotation	Power OFF
E03	SUPPLY REEL FG input absent	REC, PLAY, SEARCH, FF	UNLOADING → Power OFF
E02	Mode control motor rotates for more than 10 sec without shift to next mode	UNLOADING	Power OFF
E01	Mode control motor rotates for more than 10 sec without shift to next mode.	LOADING	Power OFF
E00	Overtime the programming transaction	REC, PLAY	Power OFF

1.8 DEMONSTRATION MODE

This model has the DEMONSTRATION mode.

1) How to set the DEMONSTRATION mode.
The camera can be entered into the DEMONSTRA-TION mode by setting on the DISPLAY screen appearing in the viewfinder.

When entering the camera into the DEMONSTRATION mode, pay heed to the following matters.

No cassette is set in the camcorder or a cassette is set in the camcorder but it is protected from recording.

Note: *1) The indications of the DISPLAY page very depending on the setting.*

2) How to cancel the DEMONSTRATION mode.
To cancel the DEMONSTRATION mode, turn the POWER switch off (“POWER OFF”).

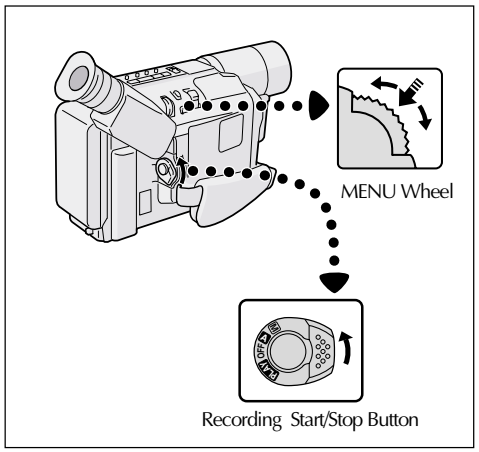
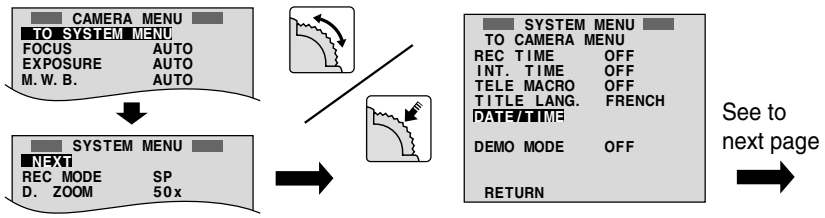


Fig. 1-8-1

1. Set the POWER switch to turn on the “M”.
Press the MENU WHEEL once.
The first page of the DISPLAY appears on the LCD monitor (or in the viewfinder).

2. Turn the MENU WHEEL in the direction of the arrow to set the cursor at “NEXT”.
Press the MENU WHEEL once.
The second page of the DISPLAY appears on the LCD monitor (or in the viewfinder).



Display 1

Display 2

See to next page

Note: *2) As the "DEMO MODE" is executed, the camcoder enters the DEMONSTRATION mode after the title screen of "TITLE CALL" and "FUTURE" appear in this order.*

<Flow chart>

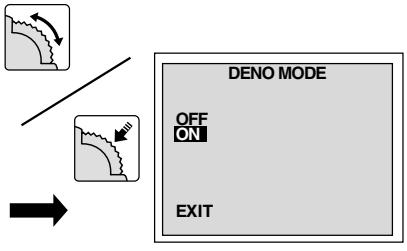
1. TITLE CALL and FUTURE
2. EASY PC CONNECTION
3. CREATE IMAGES & E-MAIL
4. NIGHT-SCOPE OFF
5. NIGHT-SCOPE ON
6. VHS
7. S-VHS (For S-VHS MODEL ONLY)
8. SNAP SHOT
9. PROGRAM AE FOG
10. PROGRAM AE ND EFFECT
11. FADE/WIPE BLACK
12. FADE/WIPE MOSAIC
13. FADE/WIPE SHUTTER
14. FADE/WIPE SLIDE
15. FADE/WIPE DOOR
16. FADE/WIPE CORNER
17. FADE/WIPE WINDOW
18. DIGITAL EFFECT NEGA/POSI
19. DIGITAL EFFECT STRETCH
20. DIGITAL EFFECT MOSAIC
21. DIGITAL EFFECT SEPIA
22. DIGITAL EFFECT B/W
23. DIGITAL EFFECT B.FILTER
24. DIGITAL EFFECT R.FILTER
25. DIGITAL EFFECT SOLARI
26. DIGITAL EFFECT STROBE
27. DIGITAL EFFECT CLASSIC
28. DIGITAL EFFECT VIDEO ECHO
29. WIDE OFF
30. WIDE ON
31. WIDE OFF
32. P.STABILIZER OFF
33. P.STABILIZER ON
34. P.STABILIZER OFF
35. P.STABILIZER ON

Fig. 1-8-2

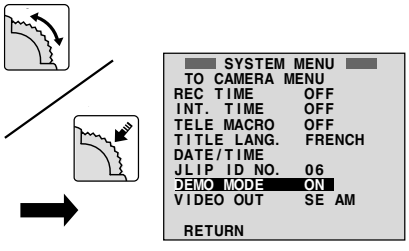
3. Turn the MENU WHEEL in the direction of the arrow to set the cursor at "DEMO MODE". Then, press the MENU WHEEL once.
   The third page of the DEMO MODE appears on the LCD monitor (or in the viewfinder).

4. Turn the MENU WHEEL in the direction of the arrow to set the cursor at "ON". Then, press the MENU WHEEL once.
   The fourth page of the DISPLAY appears on the LCD monitor (or in the viewfinder). ("DEMO MODE" is switched "ON" from "OFF" status.)

5. Press the MENU WHEEL once.
   The camcorder automatically enters the DEMONSTRATION mode and it repeats demonstration operation.
   While the camcorder is performing demonstration, all operations except turning on/off the POWER switch are ineffectual.



Display 3



Display 4

Refer to Fig. 1-8-2.
While the DEMONSTRATION mode is activated, a word of DEMONSTRATION is appearing on the screen scrolling from right to left.

MAIN ASS'Y

Symbol No. →	①		②		③									④			⑤		⑥			⑦ (⑧, ⑨)			
Removing order of screw →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Place to stick screw →																									
Reference drawing →	Fig. C1		Fig. C2		Fig. C3									Fig. C4			Fig. C5		Fig. C6			Fig. C7			
Screw tightening torque →	I																								

Symbol No. →	⑩																				⑪		
Removing order of screw →	26	27	28	29	30	31	32	33	34	35	36	37	38	39			40	41	42		43	44	
Place to stick screw →				✻	✻			✻	✻														
Reference drawing →	Fig. C8			Fig. C9				Fig. C10						Fig. C11a,b			Fig. C12				Fig. C13		
Screw tightening torque →	I			V		II		II						II			VI		VII		III		

DECK ASS'Y

Symbol No. →	①				②		③		④					⑤			
Removing order of screw →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Place to stick screw →																	
Reference drawing →	Fig. D1				Fig. D2		Fig. D3		Fig. D4					Fig. D5			
Screw tightening torque →	I								I		IV		I	VIII			

OP B LOCK ASS'Y

Symbol No. →	③	
Removing order of screw →	1	2 3
Place to stick screw →		
Reference drawing →	Fig. 1-5-1	
Screw tightening torque →	I	V

< NOTE >

1) ✻ : Don't reuse the screw, because screw lock bond was applied to them.
2) Pay careful attention to tightening torque for each screw.

I : 0.196N·m (2.0kgf·cm)　　II : 0.098N·m (1.0kgf·cm)　　III : 0.118N·m (1.2kgf·cm)
IV : 0.108N·m (1.1kgf·cm)　　V : 0.147N·m (1.5kgf·cm)　　VI : 0.049N·m (0.5kgf·cm)
VII : 0.078N·m (0.8kgf·cm)　　VIII : 0.216N·m (2.2kgf·cm)

Table 1-9-1

SECTION 2
MECHANISM ADJUSTMENT

2.1 SERVICE CAUTIONS

2.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. When installing parts, be careful not to do with other parts as well as not to damage others. (Pay the most careful attention to the upper drum assy and tape transport mechanism.)

2.1.2 How to read the disassembly and assembly (For Mechanism Parts)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

(2) Part to be removed or installed.

(3) Location of part.
T = Top
B = Bottom

(4) Fig. No. showing Procedure or Part Location.
M = Mechanism

(5) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.

(6) Adjustment information for installation.
(+) = Refer to Exploded Views for Lubrication information.

2.1.3 Required adjustment tools

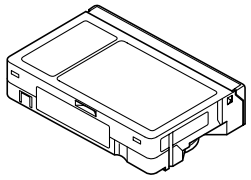
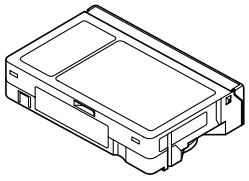
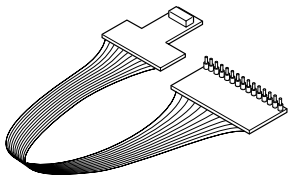
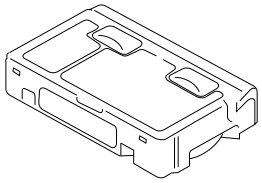
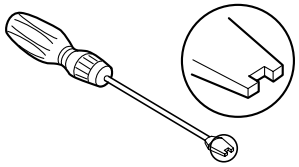
1 Alignment tape MHP-C	2 Alignment tape MHP-LC
	
3 Jig connector cable YTU93106A	4 Extension connector YTU94145B-30
	
5 Cassette torque meter PUJ50431-2	6 Roller Driver PTU94002-2
	

Table 2-1-1

1,2. Alignment tape
To be used for check and adjustment of interchangeability of the mechanism.
(Video: Color bar signal, Audio: Non-signal)

3. JIG connector cable
Connected to CN25 of the main board and used for measuring error rates, etc.

4. Extention connector
To be used to JIG connector cable

5. Cassette Torque Meter
This is used to cheek the back tension and play torque during mechanism adjustment.

6. Roller Driver
To be used to turn the roller driver to adjustment of the linearity of playback envelope.

(For Mechanism Parts)

STEP/LOC. No.	PART		Fig. No.	REMOVAL *UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	INSTALLATION ADJUSTMENT CONDITION NOTE
①	ROLLER BASE ASSEMBLY	T	M1	(S1)	–
②	TENSION ARM ASSEMBLY	T	M1	(P1), (W1a)	–
③	REEL DISC (SUP)	T	M1	(W1a), (W1b)	–
	(1)	(2)	(3)	(4) (5)	(6)

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM PARTS

This procedure starts with the condition that the cabinet parts and deck parts. Also, all the following procedures for adjustment and parts replacement should be performed in STOP mode. When reassembling, perform the step(s) in the reverse order.

STEP/LOC. No.	PART		Fig. No.	REMOVAL *UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	INSTALLATION ADJUSTMENT CONDITION NOTE
①	ROLLER BASE ASSEMBLY	T	M1	(S1)	–
②	TENSION ARM ASSEMBLY	T	M1	(P1), (W1a)	–
③	REEL DISC (SUP)	T	M1	(W1a), (W1b)	–
④	SLANT ARM ASSEMBLY	T	M1	(W1a)	–
⑤	CANCEL LEVER ASSEMBLY	T	M2	(W2)	–
⑥	EJECT LEVER ASSEMBLY	T	M2	(W2)	–
⑦	CASSETTE GUIDE (L) ASSEMBLY	T	M2	(S2)	–
⑧	SUPPLY CLUTCH ASSEMBLY	T	M2	(W2)	–
⑨	WHEEL GEAR	T	M2	(W2)	See, Adjustment procedure for Section 2.3
⑩	ROTARY ENCODER	B	M3	4(S3a)	The function of this part varies according to the assembly (VHS/S-VHS) which this part is rporated in.
⑪	TIMING BELT	B	M3	–	–
⑫	CENTER PULLEY UNIT	T/B	M3	2(S3a)	–
⑬	CASSETTE GUIDE (R) ASSEMBLY	T	M3	(S3b), (P3)	(Only use S-VHS model)
⑭	TU GEAR	T	M3	(W3a)	–
⑮	BRAKE SUB GEAR	T	M3	(W3a)	–
⑯	P.R ARM ASSEMBLY	T	M3	(W3b)	–
⑰	TU GUIDE ARM ASSEMBLY	T	M3	(W3a)	–
⑱	LINK ARM ASSEMBLY	T	M4	(W4)	–
⑲	LED GUIDE	T	M4	(S4a)	–
⑳	A/C HEAD UNIT	T	M4	2(S4b)	–
㉑	SLANT POLE BASE ASSEMBLY	T	M5	(S5a)	–
㉒	CAP MOTOR ASSEMBLY	T	M5	3(S5a)	–
㉓	MOTOR BASE	T	M5	2(S5b), (S5c)	–
㉔	BRUSH	B	M6	(S6a)	–
㉕	DRUM FINAL	T/B	M6	2(S6b), 2(S6c) *CATCHER	–
㉖	GUIDE RAIL	T	M6	8(S6d)	–
㉗	POLE BASE (SUP)	T	M6	–	–
㉘	POLE BASE (TU)	T	M6	–	–
㉙	COVER PLATE	T	M7	–	–
㉚	DRIVE LEVER ASSEMBLY	T	M7	–	–
㉛	MOTOR BRACKET ASSEMBLY	T	M7	3(S7)	–
㉜	CONTROL CAM	T	M8	(W8a)	See, Adjustment procedure for Section 2.3
㉝	LINK LEVER	T	M8	–	–
㉞	MIDDLE GEAR	T	M8	–	–
㉟	LOADING GEAR(T) ASSEMBLY	T	M8	(W8b)	See, Adjustment procedure for Section 2.3
㊱	LOADING GEAR(S) ASSEMBLY	T	M8	(W8b)	–
㊲	LOADING RING ASSEMBLY	T	M8	4(S8)	See, Adjustment procedure for Section 2.3

Table 2-2-1

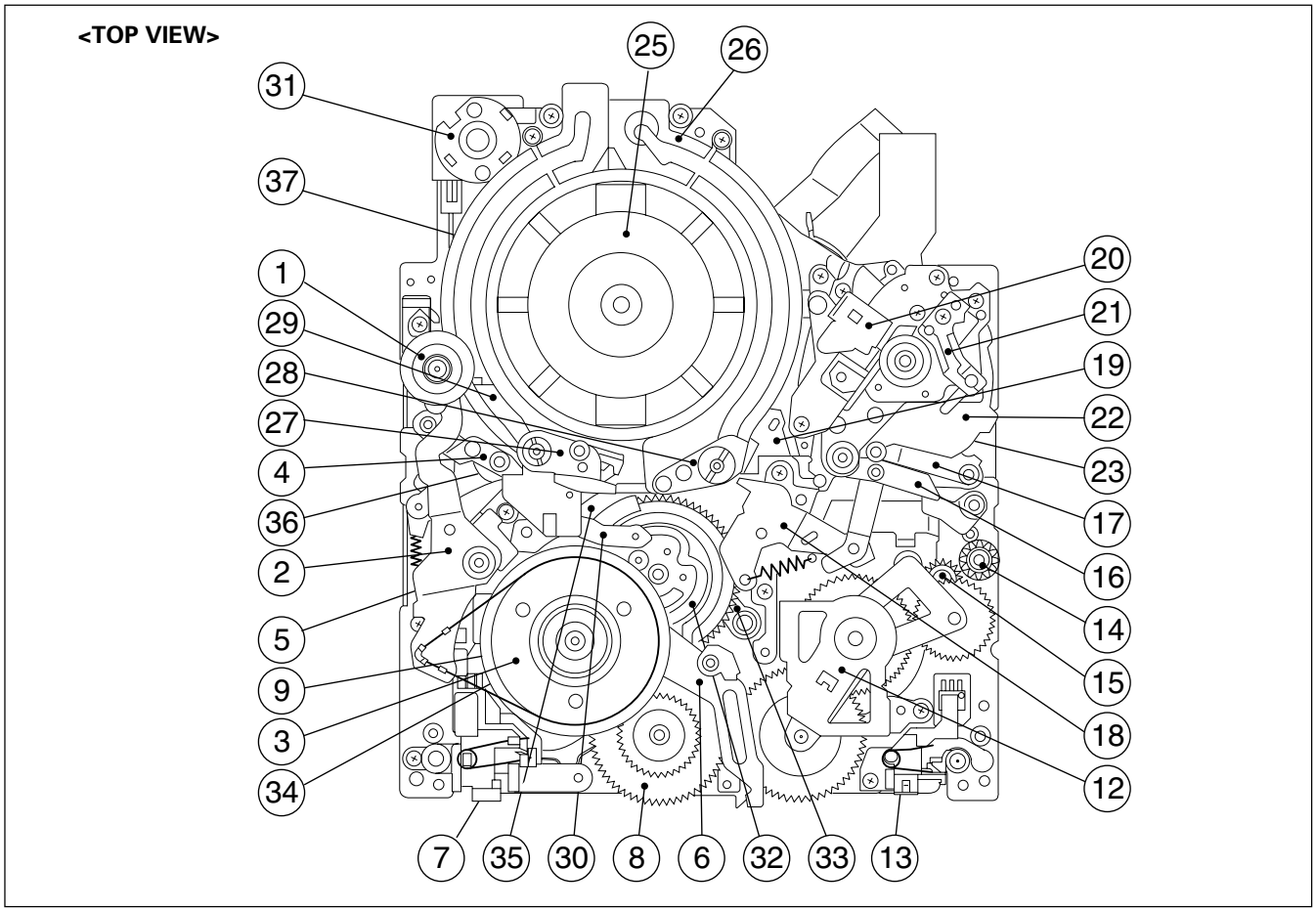


Fig. 2-2-1 TOP VIEW

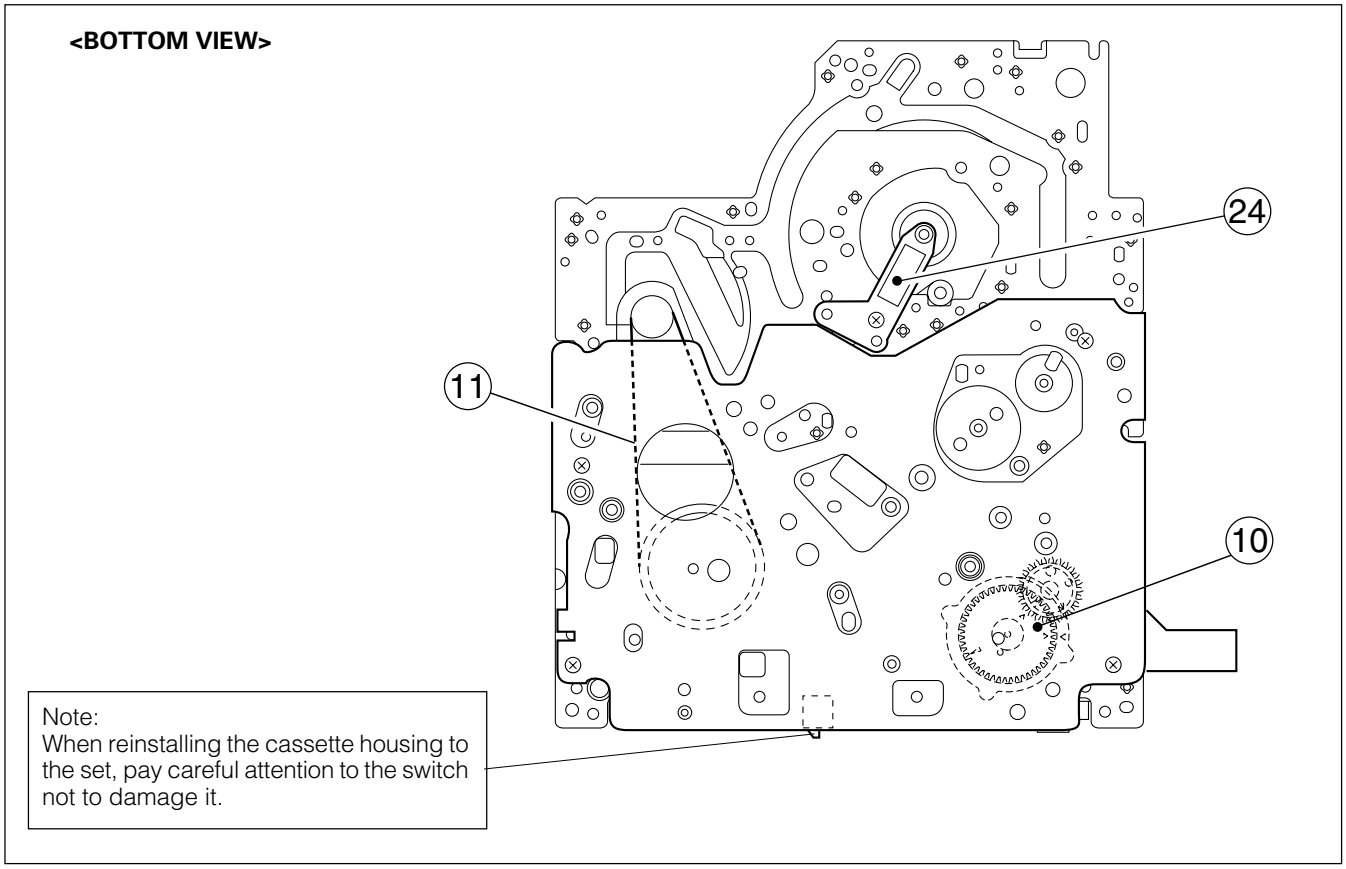


Fig. 2-2-2 BOTTOM VIEW

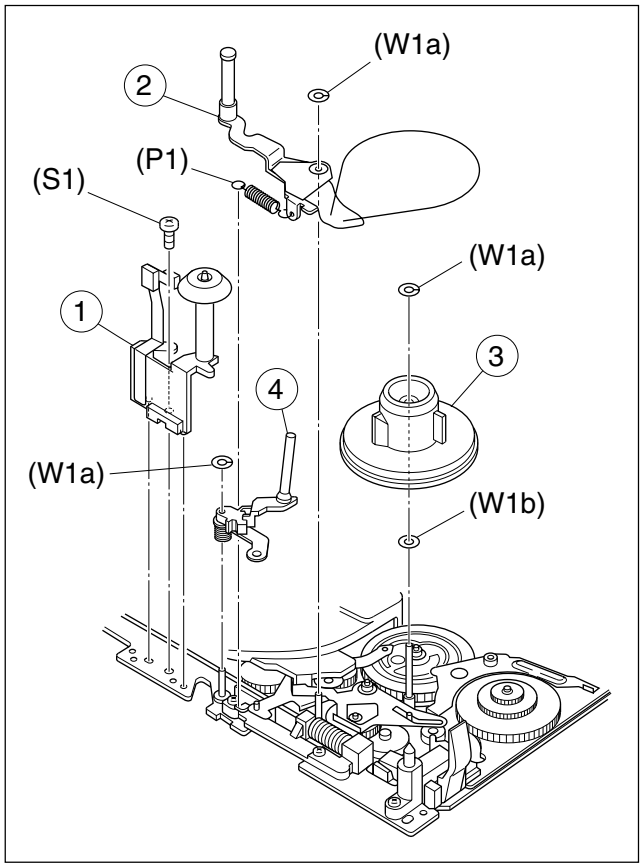


Fig. M1

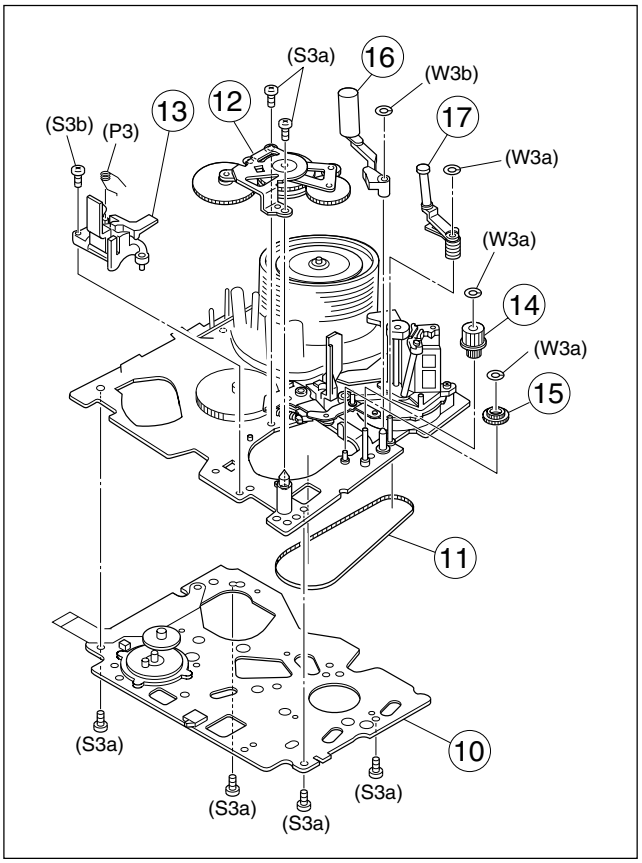


Fig. M3

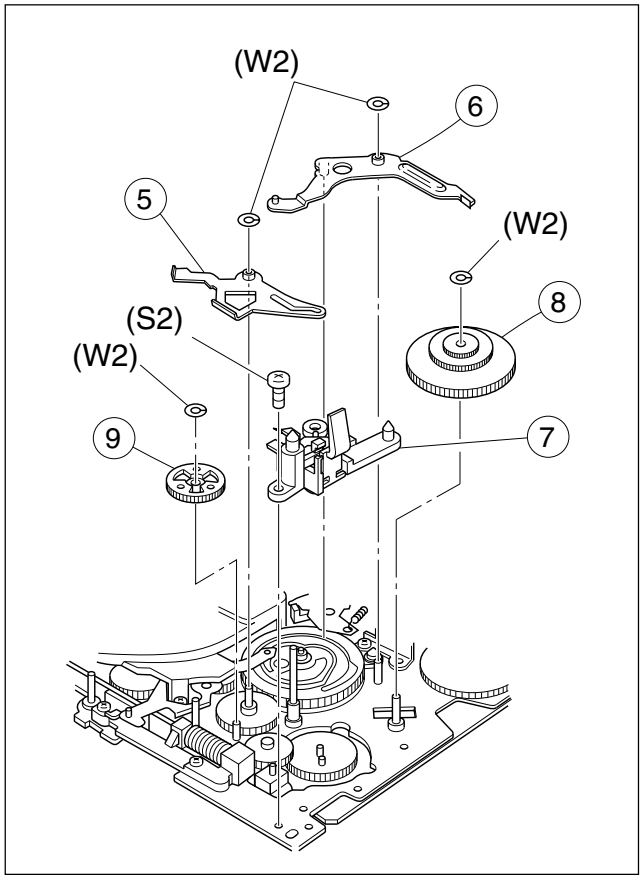


Fig. M2

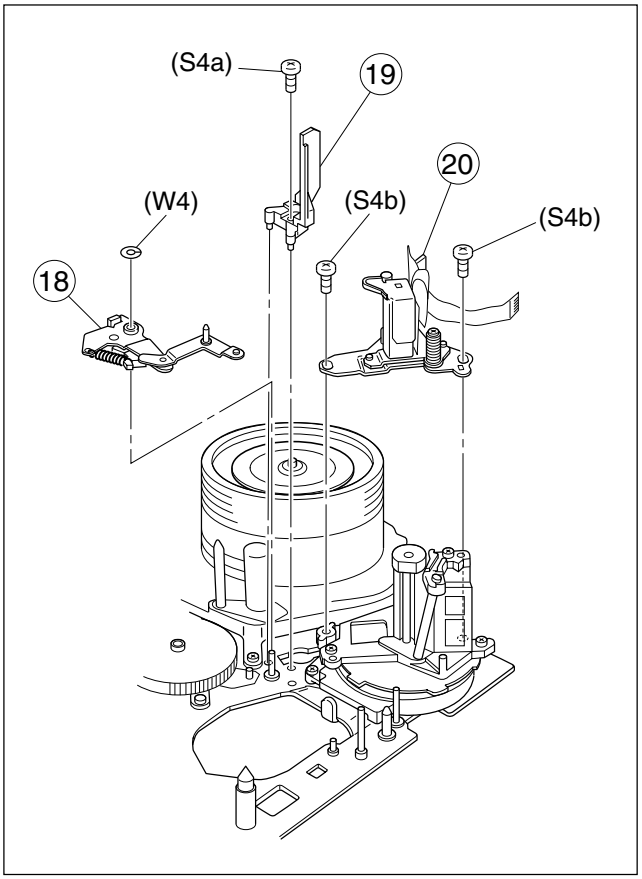


Fig. M4

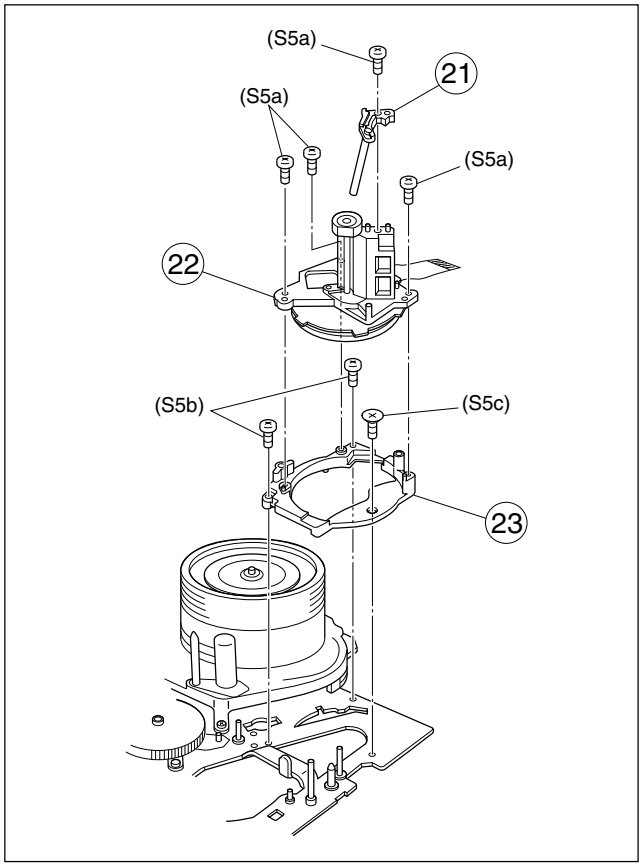


Fig. M5

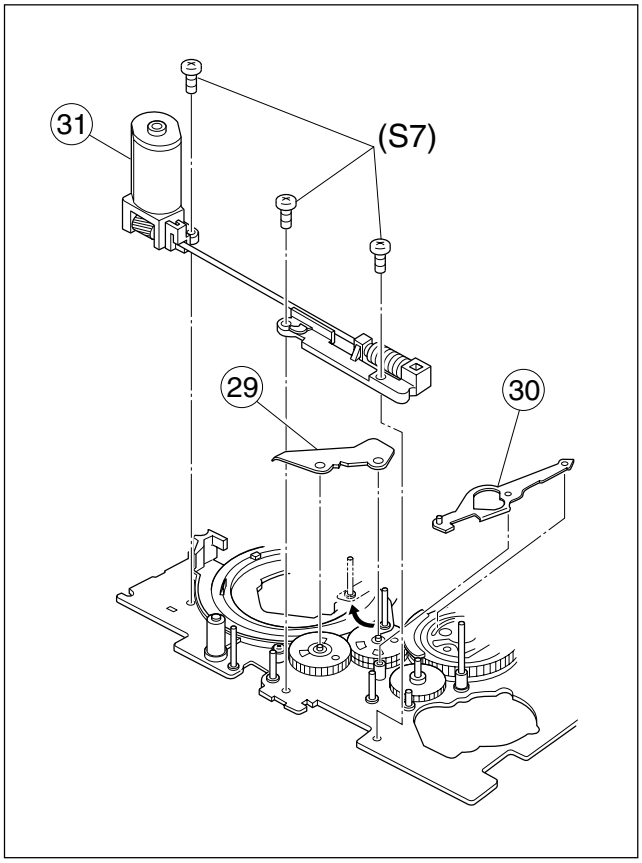


Fig. M7

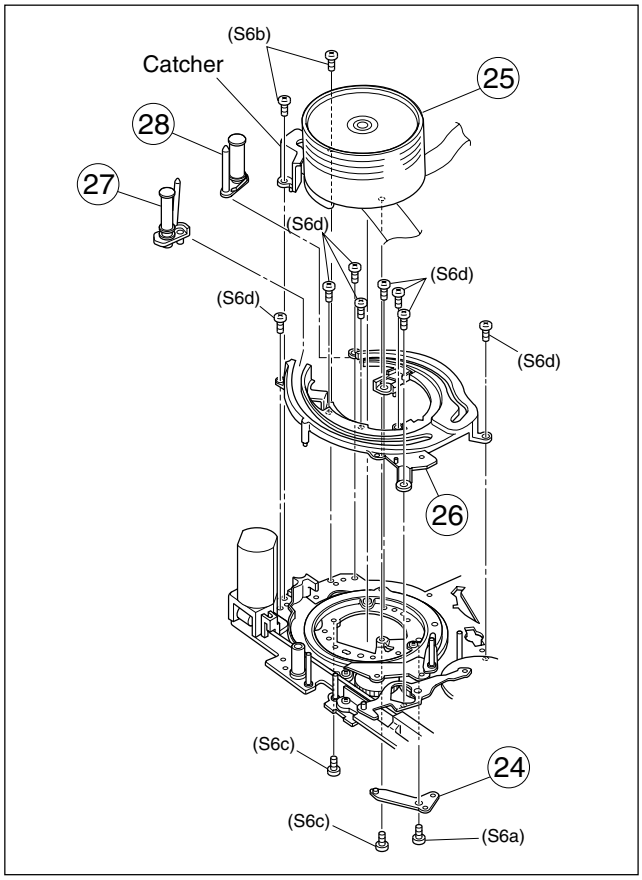


Fig. M6

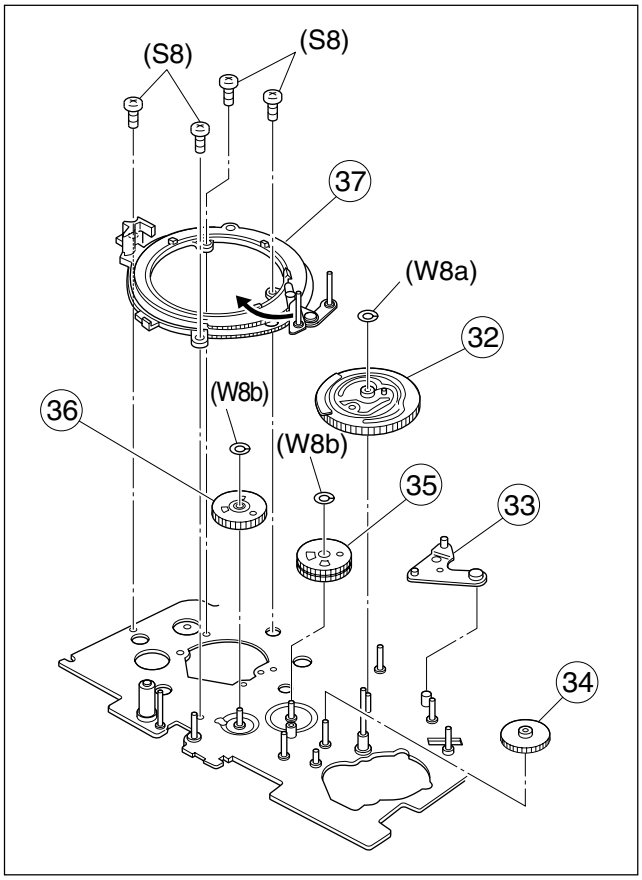


Fig. M8

2.3 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

Note: *Pay careful attention to the installing order and phase of mechanism parts of the loading system.*

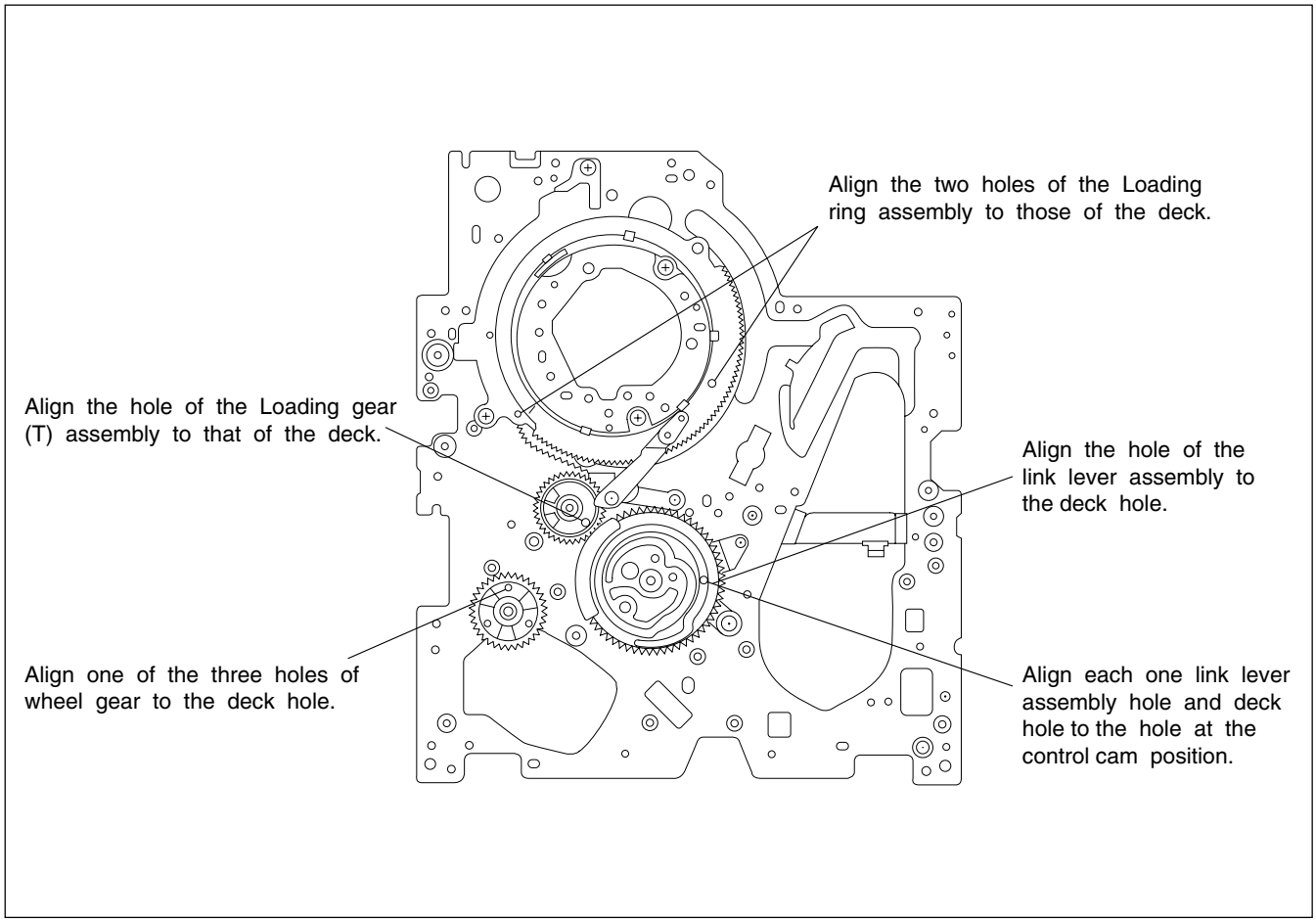

Align the two holes of the Loading ring assembly to those of the deck.
Align the hole of the Loading gear (T) assembly to that of the deck.
Align the hole of the link lever assembly to the deck hole.
Align one of the three holes of wheel gear to the deck hole.
Align each one link lever assembly hole and deck hole to the hole at the control cam position.

Fig. 2-3-1 Top of main deck

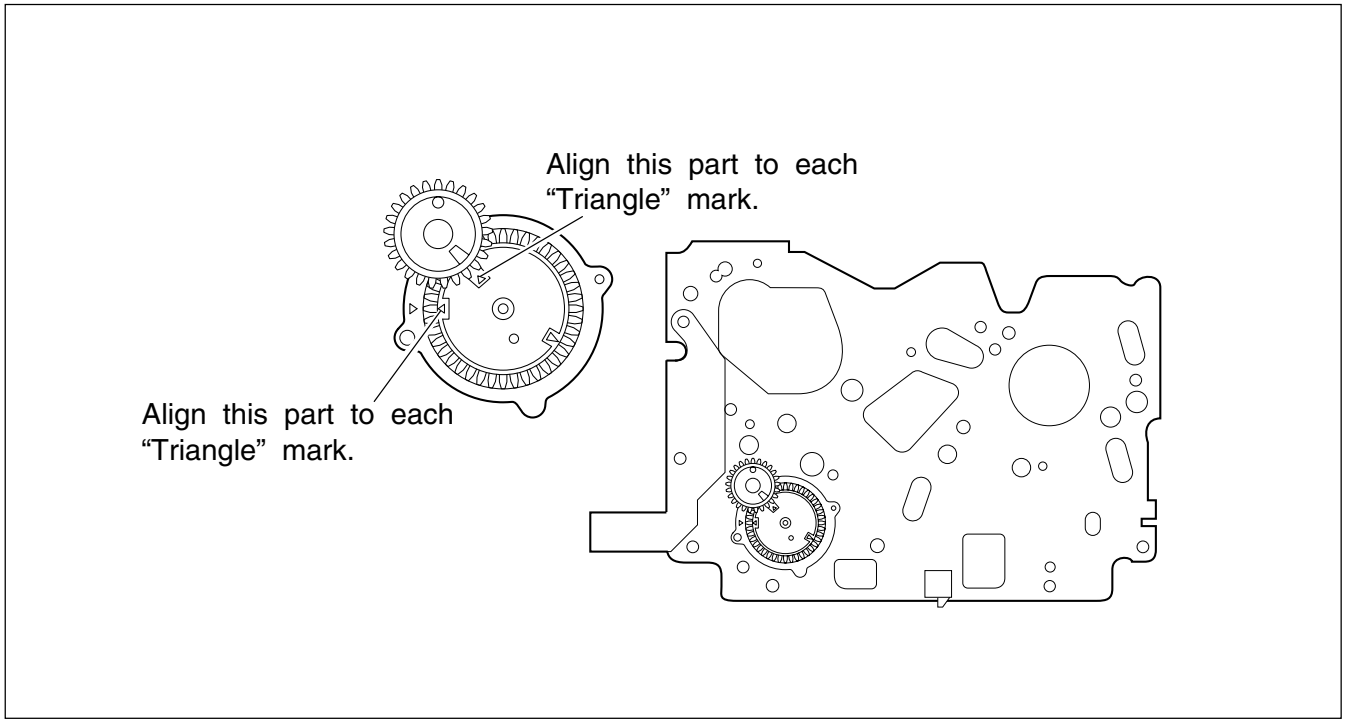


Fig. 2-3-2 Rotary encoder

2.4 TAPE TRANSPORT ADJUSTMENT

In most cases the deck section is in need electrical adjustment, it results from replacement of worm mechanical parts or video heads. In the event of malfunction with electrical circuits, troubleshouting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

2.4.1 Back tension

1. Set a cassette torque meter onto the deck and measure the back tension in standard REC mode to confirm that the back tension is $0.7x10^{-3}$ – $1.37x10^{-3}$ N•m.
2. If not, replace the tension band.
   When the value widely fluctuates in the measurement, replace the supply reel disk.
3. With the cassette torque meter, confirm that the play torque is $1.47x10^{-3}$ – $2.45x10^{-3}$ N•m.
   If necessary, replace the center pully unit.

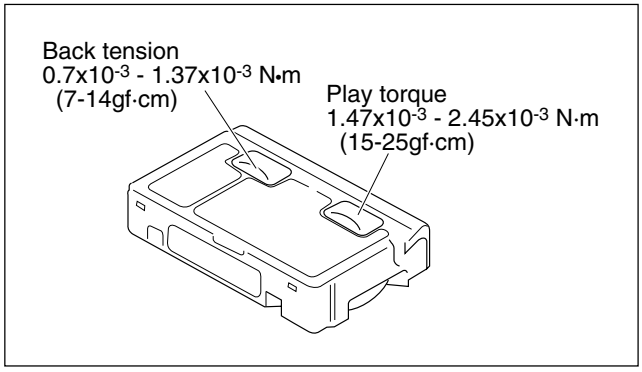


Fig. 2-4-1 Cassette torque meter

2.4.2 Tape pattern

1. Remove the Cover (JIG) shwon on Fig. 2-6-1 (Page 2-10).
2. Connect the jig connector cable to CN25 on the MAIN board as shwon on Fig. 2-6-1 (Page 2-10).
3. Observe signal at V. TP FM with external trigger from V. FF on the jig connector cable.
4. Playback the SP stairstep signal of the alignment tape and maximize the FM waveform by the tracking button.
5. Set the tracking control to the center position by simultaneously pressing the tracking (-) and (+) buttons and maximize the FM waveform by the tracking button.
6. If the observed FM waveform is not flat, adjust the height of the supply of take-up guide roller with the roller driver.

   Note: *To prevent the tape from damage, turn the guide rollers slowly.*
7. By operating the tracking button (both in + and – directions) in the manual tracking mode, vary the output level of the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape.
8. When the FM waveform breaks in the level varying process, subtly adjust the height of guide rollers at every breaking point so that the waveform varies as flat as possible.
   Repeat the above steps 6. and 7. several times to confirm that the waveform is flat as a whole.
9. Playback the SP stairstep signal of alighment tape and adjust the tracking control to maximize the FM waveform, confirm that FM waveform variation is always flat.
10. Record the signal and play it back in both of the SP and EP modes, and confirm that the FM waveform is flat in both modes.

    Note: *Among the above-mentioned adjustment steps, the items of No.9 and No.10 are needed for the EP model only.*

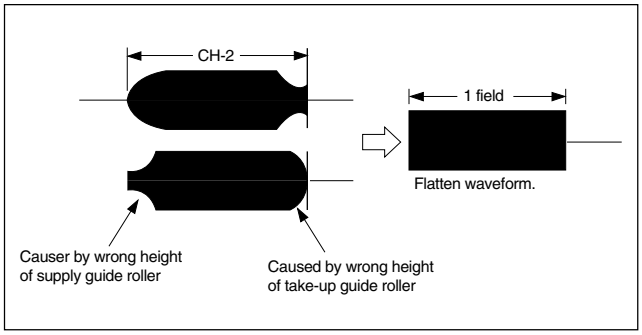


Fig. 2-4-2 FM waveform-1

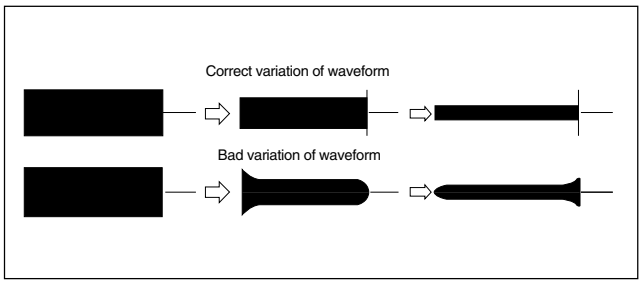


Fig. 2-4-3 FM waveform-2

(U)

11. Through the above steps, confirm that there occur no wrinkling and damage in the tape around the pinch roller and TU guide pole whenever the deck is in operation of Loading/Unloading, Search Rewind and at mode change from Search Rewind to play mode. If wrinkling or damage in the tape occurs around the TU guide pole, adjust the angle (slant) of the A/C head to the tape. So that the tape normally runs along the lower flange of the guide pole.

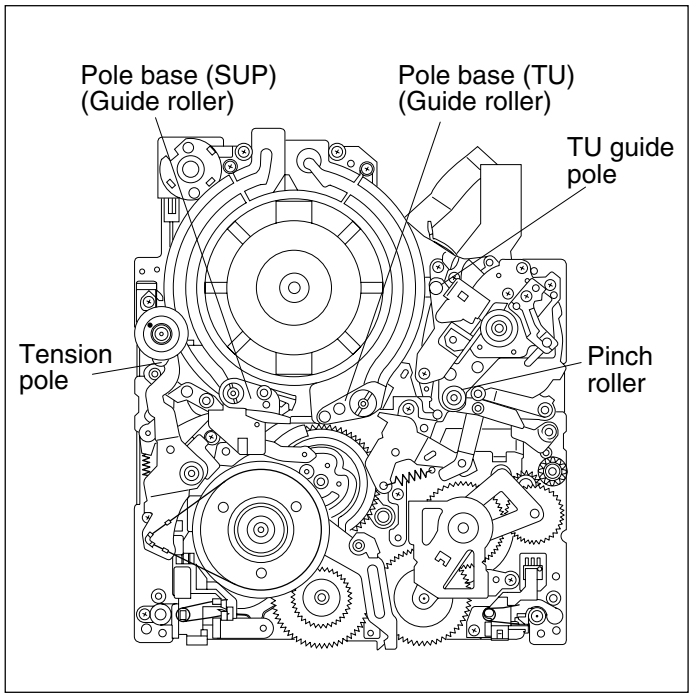


Fig. 2-4-4 Tape transport system

2.4.3 A/C head height & azimuth

1. Connect the jig connector cable to CN25 on the MAIN board.
2. Connect the channel-1 scope probe to the audio output and connect the channel-2 scope probe to PB CTL.
3. Playback the alignment tape.
4. Set the tracking to its center range by pressing the (+) and (–) tracking controls simultaneously.
5. Adjust screws Ⓐ , Ⓑ and Ⓒ approximately 45 degrees in the same direction to obtain maximum audio output and CTL signal levels.
6. As a final fine adjustment, adjust screw Ⓑ for minimum signal level fluctuation and screw Ⓒ for maximum output signal level.

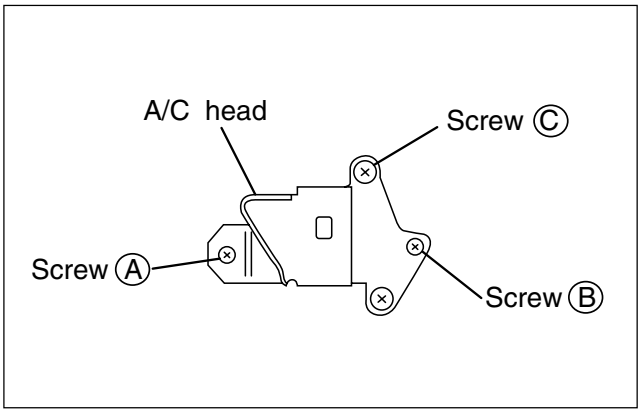


Fig. 2-4-5 A/C head

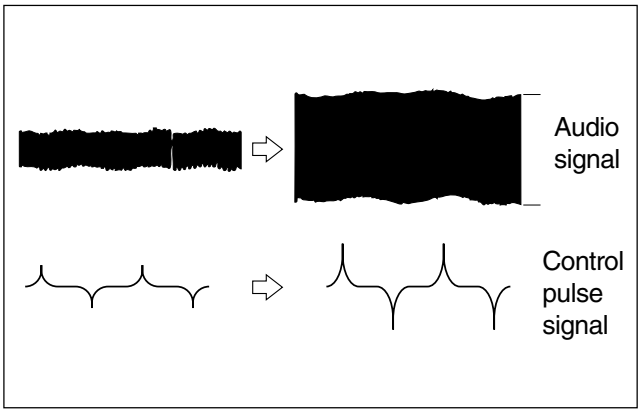


Fig. 2-4-6 Audio and CTL signal

2.4.4 Phase of control head (X value)

1. Connect the jig connector cable to CN25 on the MAIN board.
2. Playback the SP stairstep signal of the alignment tape and observe signal at V.TP FM with external trigger from V.FF on the jig connector cable.
3. Operate the tracking button in the center and manual tracking mode by pressing the tracking (+) and (–) buttons and confirm that the FM output level is maximum at the center position as shown in Fig. 2-4-8.
4. If necessary, slightly loosen the setscrews Ⓓ and Ⓔ and insert the Tweezers into the notch and guide hole to move the A/C head fully in the direction of the capstan to the extent.
5. Gradually move the A/C head toward the drum to find the position where the FM output level maximum for the first time (a' – b' in Fig. 2-4-8).
6. Fine adjust the phase of the A/C head and tighten the screws Ⓓ and Ⓔ at the point a.

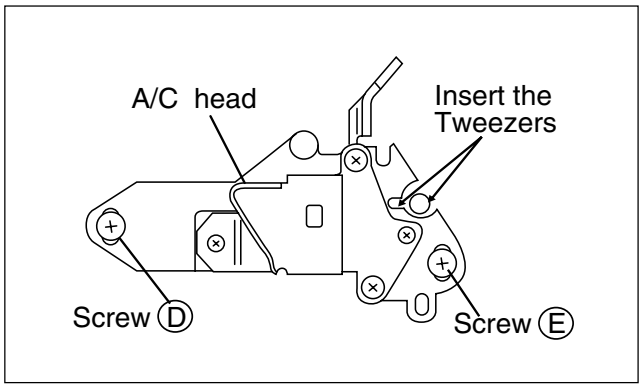


Fig. 2-4-7 Phase of control head

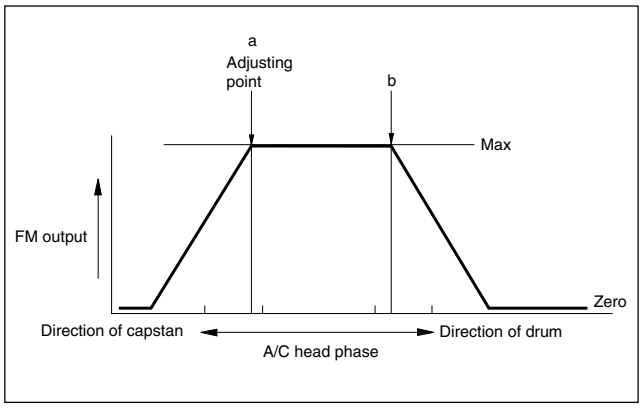


Fig. 2-4-8 Phase adjustment point of control head

2.5 REMARKS

2.5.1 Cleaning

1. For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth or Kimwipe with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

   Note: *Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.*
2. For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
3. After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.5.2 Applying oil and grease

1. Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
2. For parts and points to apply oil and grease, refer to the exploded view of the mechanism assembly (M3). Table 2-5-1 specifies oil and grease to be used.
3. When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Name	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

Table 2-5-1 Specific oil and grease to be used

2.5.3 Checkup

After replacement of the supply reel disk and tension band, make sure to inspect back tension according to the adjustment procedure of MECHANISM ADJUSTMENT section.

2.6 JIG CONNECTOR CABLE CONNECTION

Remove the cover (JIG).

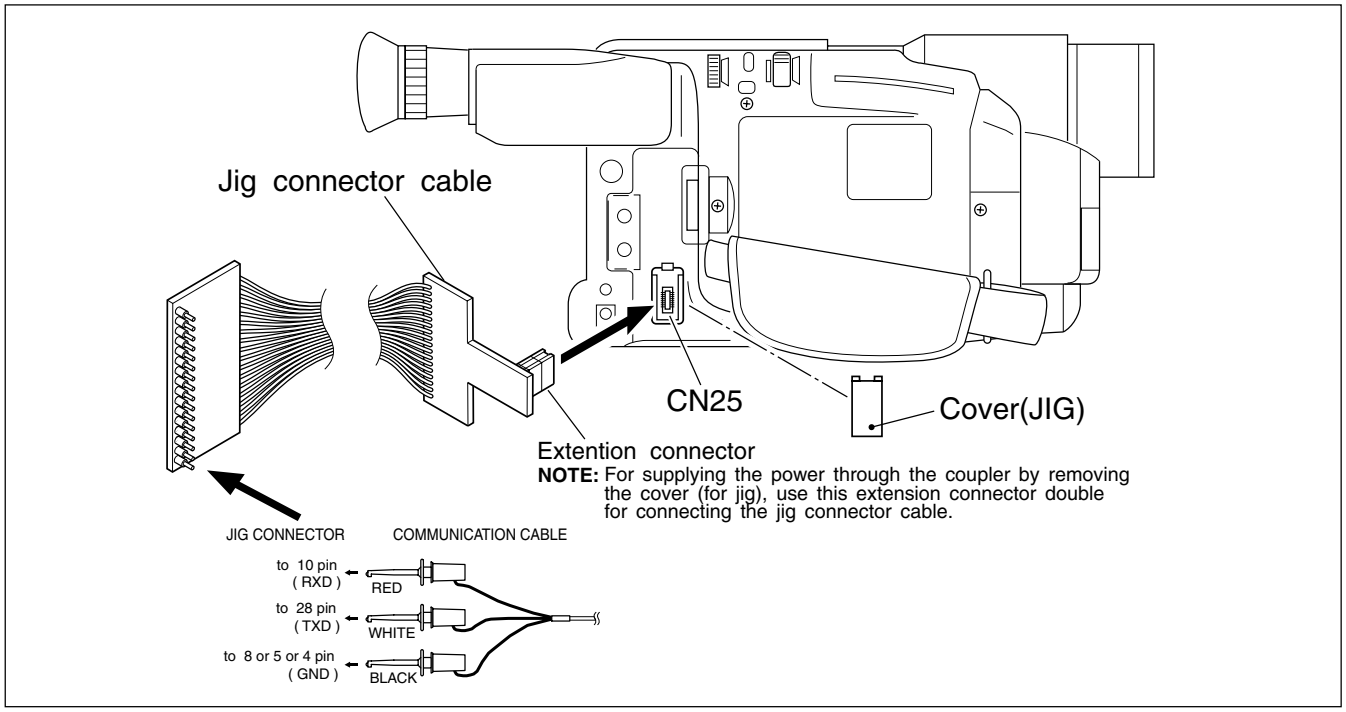

Jig connector cable
CN25
Cover(JIG)
Extention connector
NOTE: For supplying the power through the coupler by removing the cover (for jig), use this extension connector double for connecting the jig connector cable.
JIG CONNECTOR
COMMUNICATION CABLE
to 10 pin (RXD)
RED
to 28 pin (TXD)
WHITE
to 8 or 5 or 4 pin (GND)
BLACK

Fig. 2-6-1 Jig connector cable connection

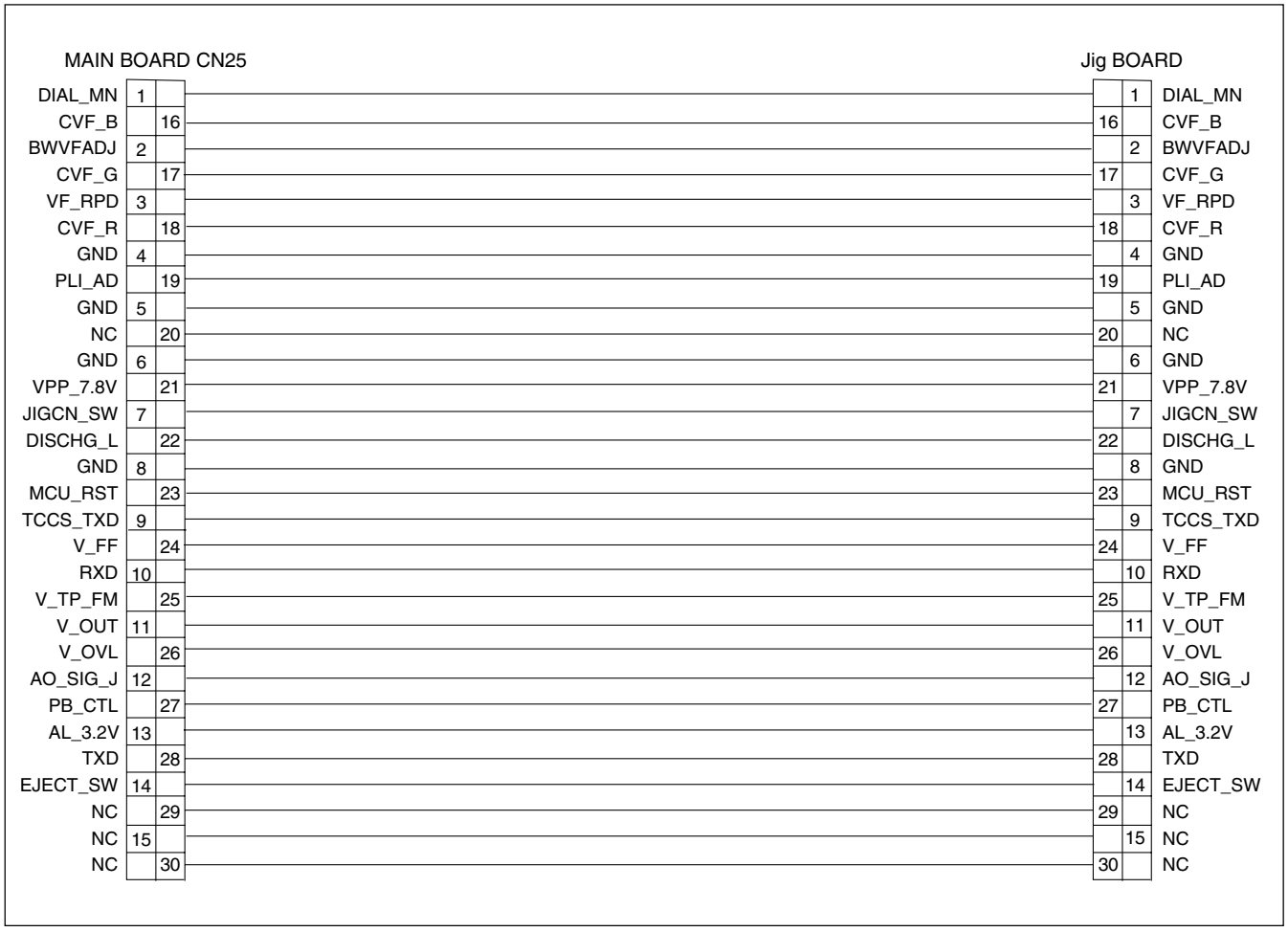


Fig. 2-6-2 Jig connector cable schematic diagram

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 ELECTRICAL ADJUSTMENT

3.1.1 PREPARATION

1. Precaution

This model does not contain adjustment controls (VR). General deck system, camera system and monitor system adjustment are not required. However, if MAIN board and MONITOR board need replacement, please use original E 2 PROM on to new board. Then adjustment are not required. And if parts such as the following need replacement, special computerized adjustment are required (Refer to sec. 3.1.1- 4). Please contact to JVC Service for detaile information.

- OP block
- EEP ROM (IC102 of MAIN board)
- MONITOR

In the event of malfunction with electrical circuits, trouble-shooting with the aid of proper test instruments most be done first, and then commence necessary repair, replace-ment and adjustment, etc.

1. In case of wiring to chip test points for measurement, use IC clips, etc. to avoid any stress.
2. Since connectors are fragile, carefully handle them in disconnecting and connecting.
3. Shortcircuit between operation un it and DECK chassis.

2. Required test equipment

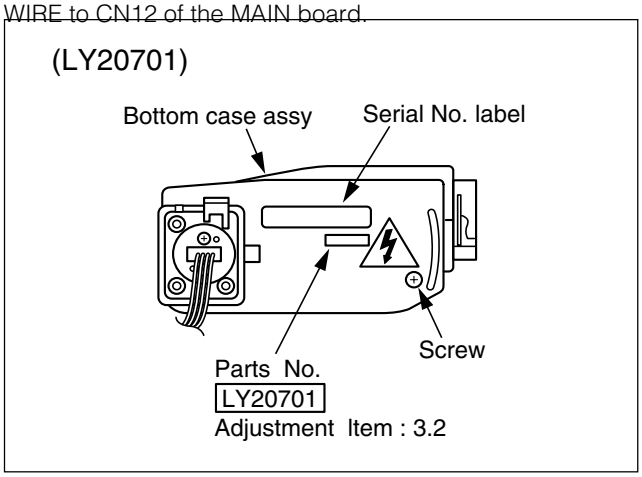
1. Color TV monitor.
2. AC power adapter
3. Oscilloscope (dual-trace type, observable 100 MHz or higher frequency)
   * It is recommended to use one observable 300 MHz or higher frequency.
4. Digital voltmeter
5. Frequency counter (with threshold level adjuster)
6. Personal computer

3. Required adjustment tools

For detsails of special jigs necessary for adjustment, refer to page 1-2 and 1-3 of the Section 1.

4. Setup for E. VF section adjustment

Referring to “SEC. 1 DISASSEMBLY” and connect the E. VF WIRE to CN12 of the MAIN board.



Note:

- *This adjustmentalls into a special adjustment that requires a personal computer. For details, refer to “3.1.1 Preparation”.*

5. Connection for Service support system

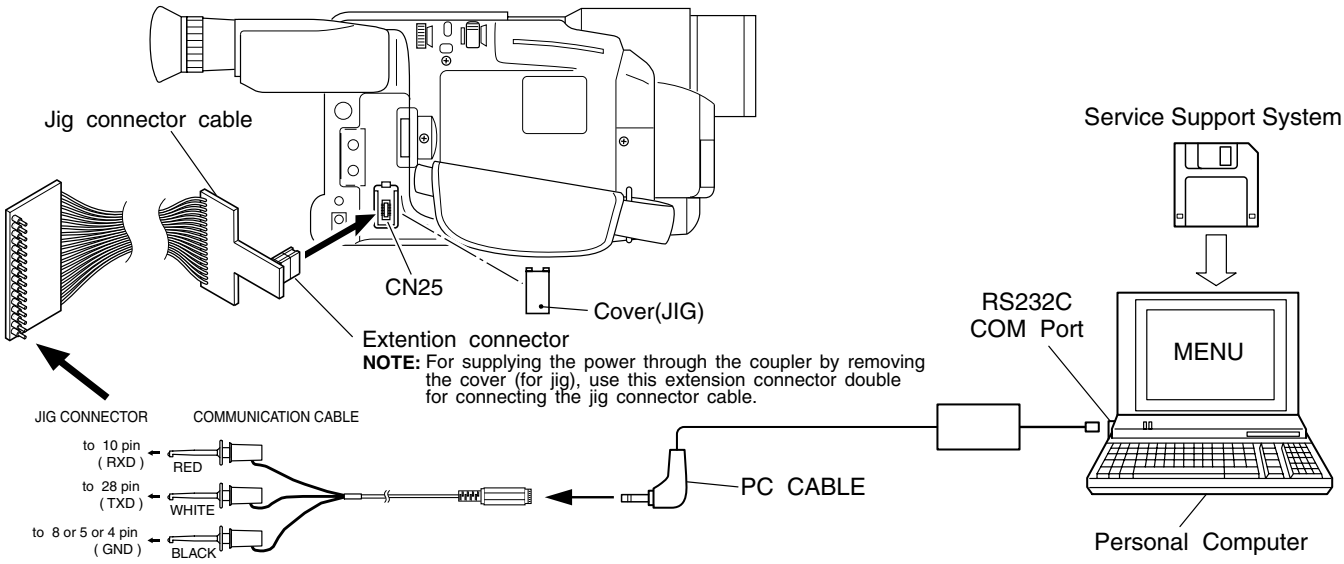

Jig connector cable
CN25
Cover(JIG)
Extention connector
NOTE: For supplying the power through the coupler by removing the cover (for jig), use this extension connector double for connecting the jig connector cable.
JIG CONNECTOR
COMMUNICATION CABLE
to 10 pin (RXD)
RED
to 28 pin (TXD)
WHITE
to 8 or 5 or 4 pin (GND)
BLACK
PC CABLE
Service Support System
RS232C COM Port
MENU
Personal Computer

Fig. 3-1-1 Connection for Service support system

3.2 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT

Notes:

- *Unless otherwise specified, all measurement points and adjustment parts are located on E. VF board.*
- *After adjustment or replacement of the deflection yoke or the centering magnet, fix it by the band as shown the figure below.*

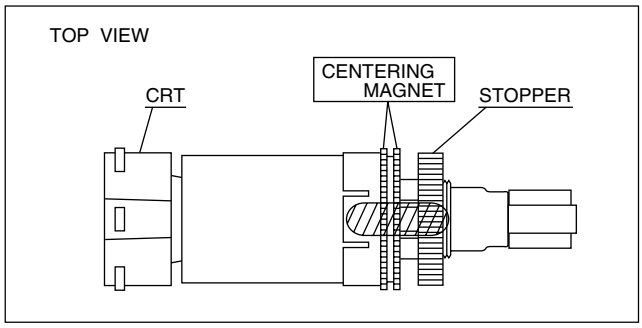


Fig. 3-2-1 E. VF

- *After adjustment is completed, compare the picture on the E. VF screen with the monitor TV.*

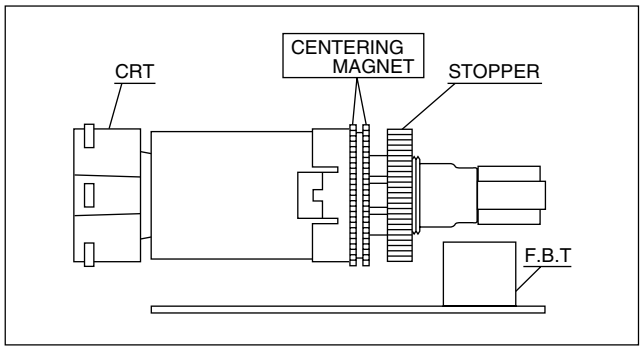


Fig. 3-2-2 E. VF

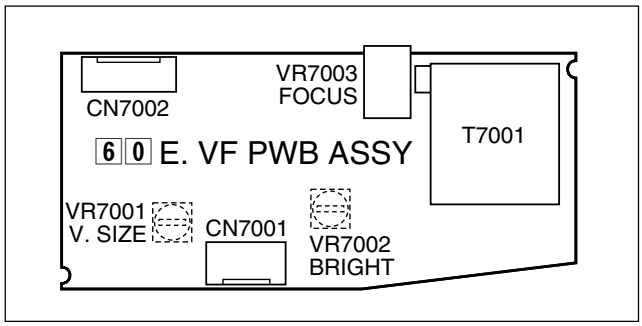


Fig. 3-2-3 E. VF board

3.2.1 Tilt

Subject	• Alignment tape • Stairstep
Mode	• PB
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• Deflection yoke
Specification	• The picture is visible as same as monitor TV.

1) Put the deflection yoke to the most inner side of CRT neck first. Then fix the stopper temporary.
2) Adjust the tilt of picture on the E. VF screen by tilting the deflection yoke.
3) Fix the stopper completely.

3.2.2 Centering

Subject	• Alignment tape • Stairstep
Mode	• PB
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• Centering magnet (CRT assy)
Specification	• The center of the E. VF screen

1) While observing the viewfinder screen, adjust the centering magnet to locate the stairstep in the center of the view-finder screen.

3.2.3 Vertical scanning

Subject	• Camera picture
Mode	• EE
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7001 (V. SIZE)
Specification	• Normal picture amplitude

1) Observing the viewfinder screen, adjust VR7001 for normal picture amplitude.

3.2.4 Brightness

Subject	• –
Mode	• EE • Lens closed
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7002 (BRIGHT)
Specification	• The CRT raster is just barely visible

1) Close the lens with the cap and adjust VR7002 so that the raster of the CRT is just visible in the E. VF.

3.2.5 Focus

Subject	• Camera picture
Mode	• EE
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7003 (FOCUS)
Specification	• The center area is clear and defined

1) While observing the viewfinder screen, adjust VR7003 so that the picture at the central area of the screen is clear and defined.

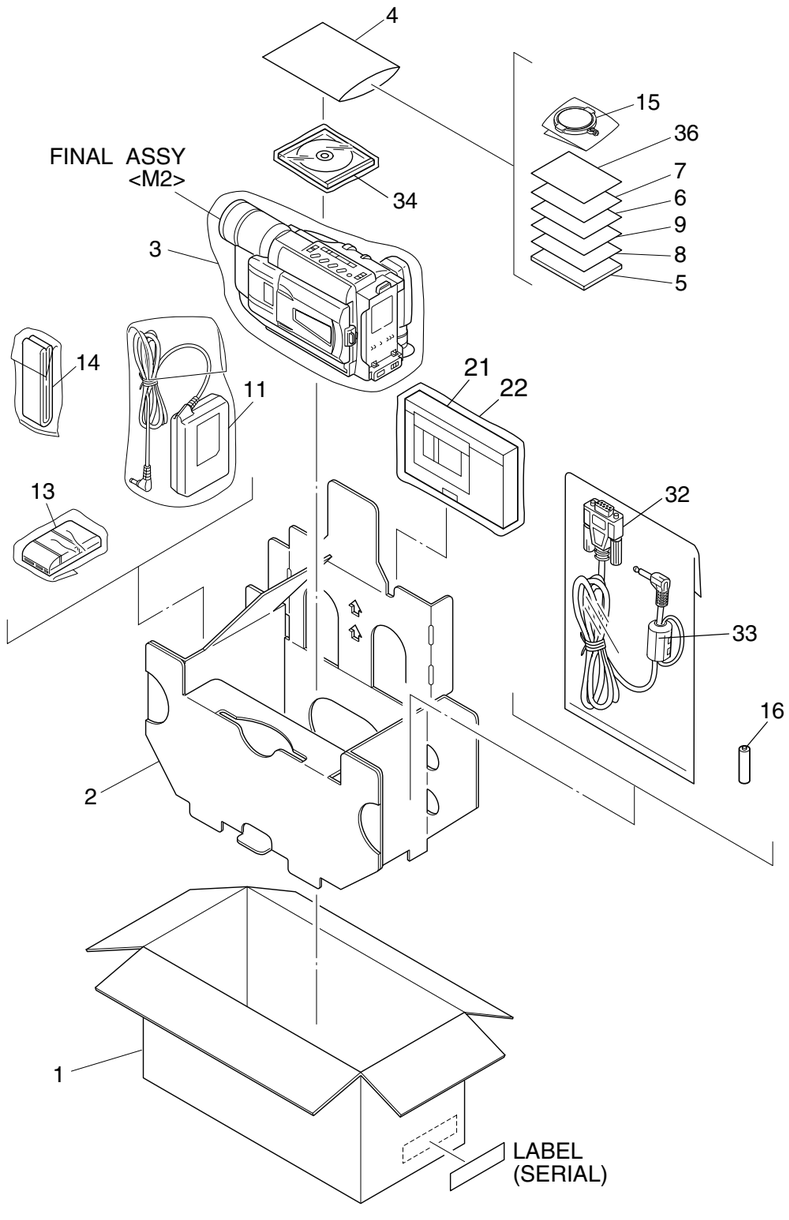
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION

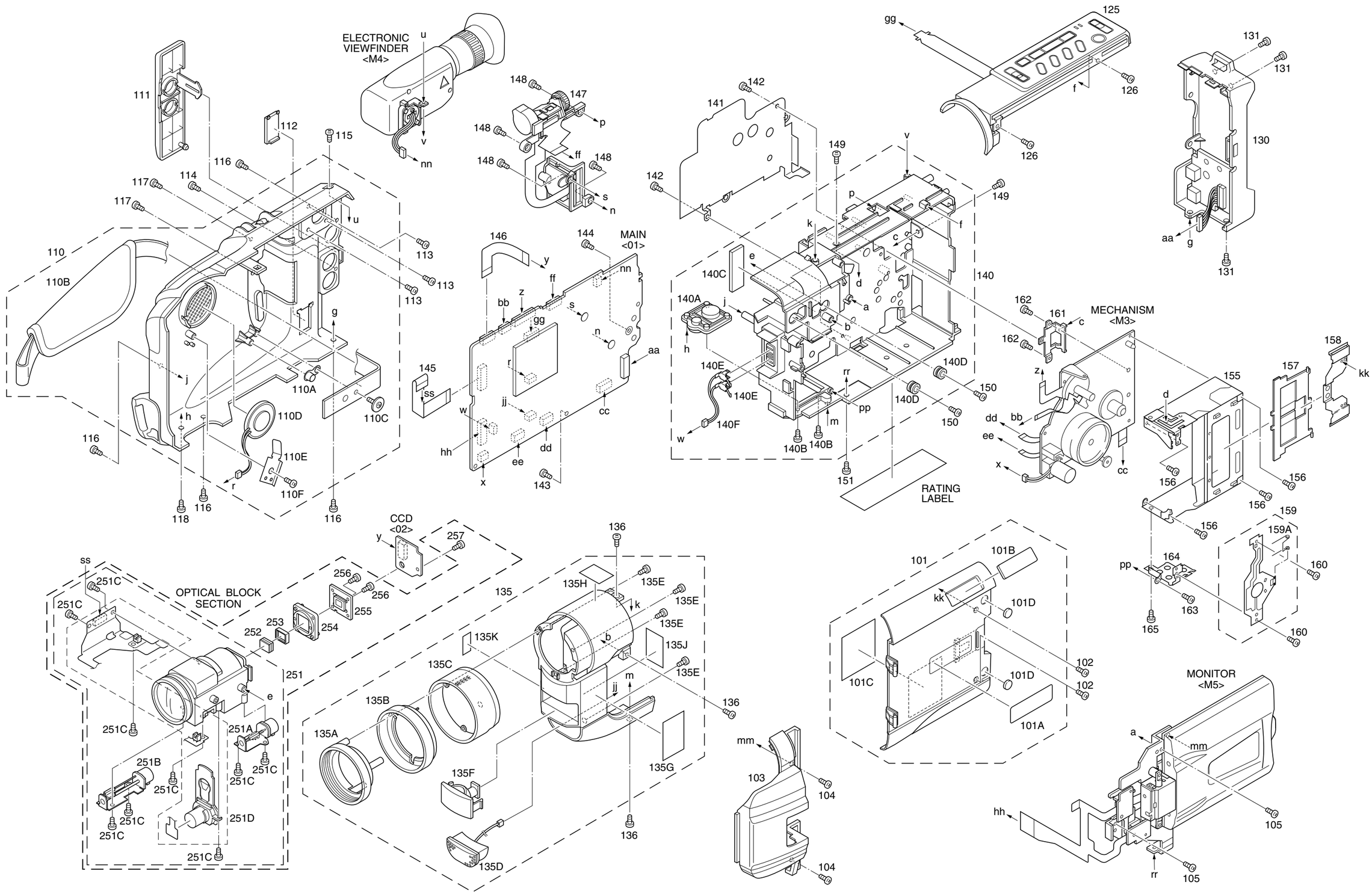
****

PACKING AND ACCESSORY ASSEMBLY <M1>

	1	LY32545-001B	PACKING CASE,SXM340U
		LY32545-006B	PACKING CASE,SXM740U
	2	LY32553-001A	CUSHION
	3	LY30023-002A	POLY BAG
	4	QPA02003506	POLY BAG
⚠	5	LYT0880-001B	INST.BOOK(EN)
	6	BT-51028-1	REGIST.CARD
	7	BT-51005-5	WARRANTY INF.
⚠	8	LYT0862-001A	INST.BOOK(SOFT.EN)
	9	LYT0934-001A	SHEET(AGREMENT)
⚠	11	LY20848-001B	AC ADAPTER,AP-V12U
⚠	13	YQ10629A	BATTERY PACK ASSY,BN-V11U
	14	LY20186-001A	SHOULDER STRAP
	15	LY43388-001A	LENS CAP
	16	–	BATTERY,AA(R6)
	21	YQ31963B-3	CASSETTE ADAPTER,C-P7U
	22	YQ43446	POLY BAG
	32	QAM0384-001	PC CONNECTION CABLE
	33	QQR1266-001	CORE FILTER
	34	LY32210-020B	CD ROM ASSY
	36	LYT0974-001A	SHEET(ATT.)

• **INSTRUCTIONS**
EN ..... ENGLISH

5.2 FINAL ASSEMBLY <M2>



# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION

****

FINAL ASSEMBLY <M2>

101	LY20694-012A	CASSETTE COVER(M)ASSY,SXM340U
	LY20815-001A	CASSETTE COVER(M)ASSY,SXM740U
101A	LY40075-004A	LABEL/CAUTION
101B	LY42883-001A	MARK
101C	LY40559-001A	SHIELD SHEET
101D	LY40076-001A	SPACER,X2
102	QYSLSP2030D	SCREW,X2
103	LY10257-054A	UPPER CASE(M),SXM340U
	LY10257-056A	UPPER CASE(M),SXM740U
104	QYSLSP2030D	SCREW,X2
105	QYSLSF2060D	SCREW,X2
110	LY20684-023A	LOWER CASE ASSY
110A	LY40081-001A	CAP
110B	LY20682-001A	GRIP BELT
110C	LY30018-003A	SPECIAL SCREW
110D	QAS0061-001	SPEAKER
110E	LY42764-001B	HOLDER(SPEAKER)
110F	QYSLSF2050Z	SCREW
111	LY31945-003A	COVER(JACK)
112	LY31946-001A	COVER(JIG)
113	QYSLSF2050Z	SCREW,X3
114	QYSLSF2060D	SCREW
115	QYSLSF2060D	SCREW
116	QYSLSF2060D	SCREW,X4
117	QYSLSF2060D	SCREW,X2
118	QYSLSF2060D	SCREW
125	LY20614-009C	TOP OPE UNIT,SXM740U
	LY20614-012C	TOP OPE UNIT,SXM340U
126	QYSLSF2060D	SCREW,X2
130	LY20615-007B	REAR UNIT,SXM340U
	LY20764-010A	REAR UNIT,SXM740U
131	QYSLSF2060D	SCREW,X3
135	LY20683-035A	FRONT COVER ASSY,SXM740U
	LY20683-036A	FRONT COVER ASSY,SXM340U
135A	LY31937-001A	HOOD
135B	LY31938-001A	COVER(HOOD)
135C	LY31936-001A	RING
135D	LY32482-001A	MICROPHONE
135E	QYSLSF2060D	SCREW,X4
135F	LY32040-001A	DC LIGHT
135G	LY32058-002A	STICKER(A),SXM340U
	LY32058-003A	STICKER(A),SXM740U
135H	LY32060-003A	STICKER(C)
135J	LY30029-0B4A	SPACER(A)
⚠ 135K	YQ44341-6	CAUTION LABEL
136	QYSLSF2060D	SCREW,X3
140	LY20832-001B	FRAME ASSY
140A	YQ31843	BASE
140B	QYSLSF2060D	SCREW,X2
140C	LY30029-0A4A	SPACER(A)
140D	LY41082-001A	CUSHION(OP),X2
140E	YQ43810-1-1	CONTACT(LIGHT),X2
140F	WJM0259-001A	E-SI C WIRE C-F,FRAME-MAIN CN6
141	LY32327-001A	SHIELD CASE(MAIN)
142	QYSPSPU1720Z	SCREW,X2
143	QYSLSF2060D	SCREW
144	QYSLSF2060D	SCREW
145	WJT0072-001A	E-CARD WIRE,OP-MAIN CN15
146	QAL0389-001	FPC,MAIN CN22-CCD CN5301
147	LY20613-001B	ZOOM UNIT
148	QYSLSF2060D	SCREW,X4
149	LY41173-001A	SPECIAL SCREW,X2
150	LY30018-050A	SPECIAL SCREW,X2
151	QYSLSP2030D	SCREW
155	LY31808-001C	CASSETTE HOUSING FINAL ASSY
156	LY42722-003A	SCREW,X4
157	LY30176-001A	CASSETTE COVER INSIDE
158	LY31956-001A	BRACKET(CASSETTE COVER)
159	LY31790-001A	FRONT FRAME ASSY
159A	YQ44144-1-1	TAPE GUIDE
160	SPSH1725M	SCREW,X2
161	LY32326-001A	BRACKET(MECHA)
162	LY42722-003A	SCREW,X2
163	QYSLSF1750D	SCREW
164	LY31807-001A	SIDE BRACKET L
165	LY42722-003A	SCREW

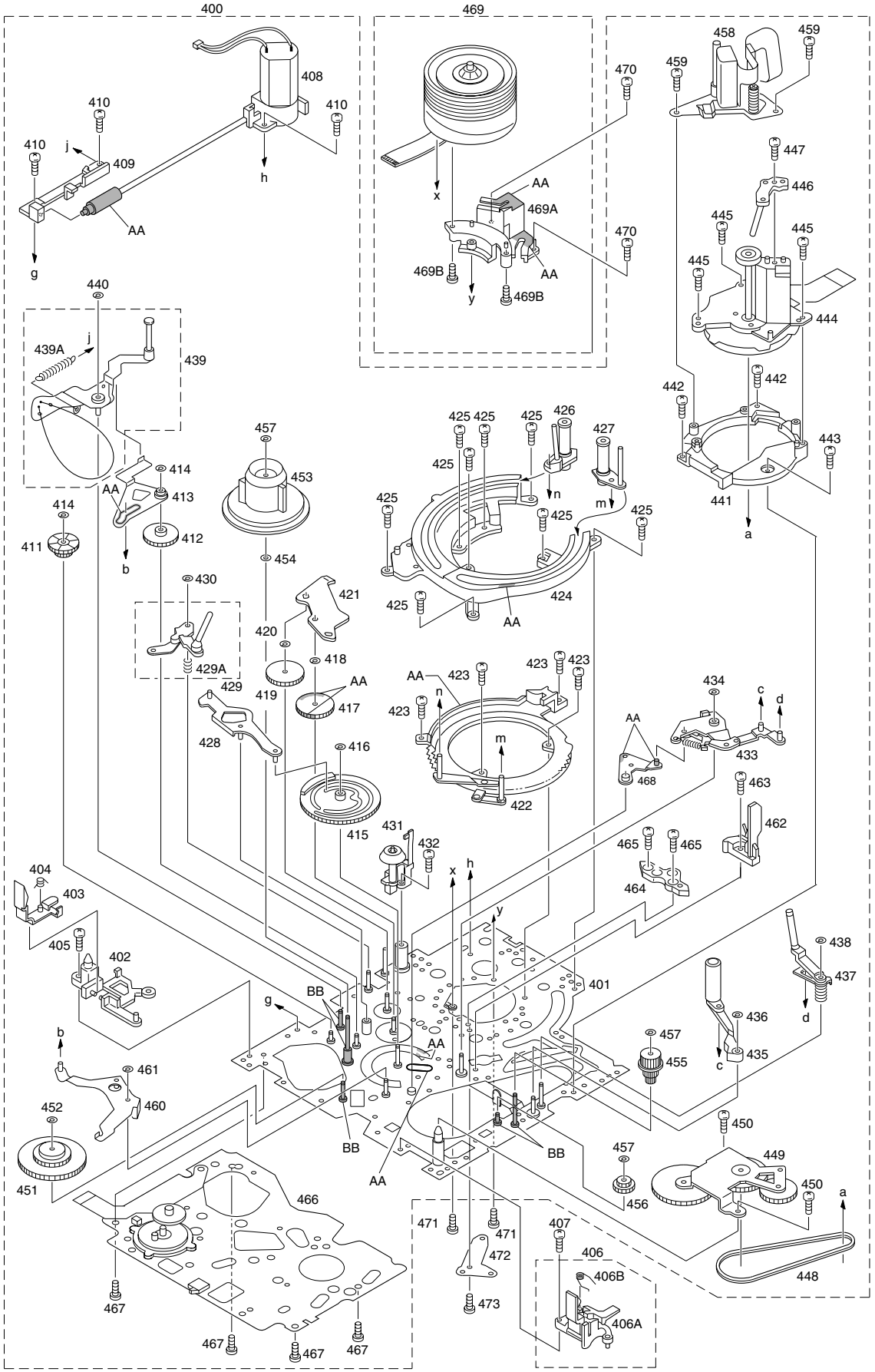
– OPTICAL BLOCK SECTION –

251	LY30948-003A	OP BLOCK ASSY
251A	PTY30948-002	FOCUS MOTOR
251B	PTY30948-301	ZOOM MOTOR
251C	PTY30151-016	TAPPING SCREW,X9
251D	PTY30948-006	IRIS MOTOR UNIT
252	LY41757-001A	OPTICAL LPF
253	LY31441-001A	SPACER RUBBER
254	LY20346-001A	CCD SPACER
255	LYH30374-002A	CCD BASE ASSY
256	QYSPSGU2080Z	SCREW,X2
257	LY30018-072A	SPECIAL SCREW

BEWARE OF BOGUS PARTS

5.3 MECHANISM ASSEMBLY <M3>

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION

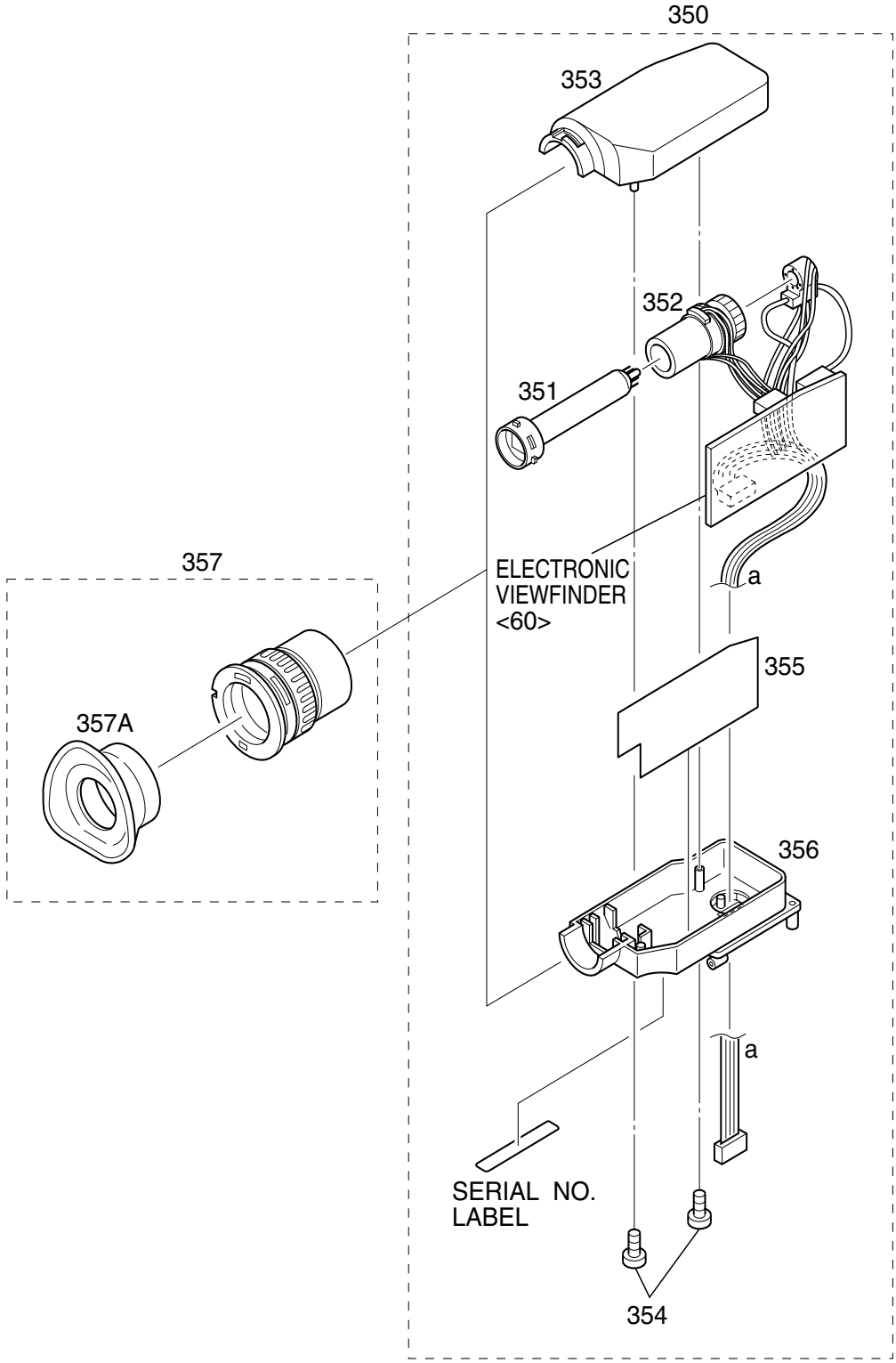
****

MECHANISM ASSEMBLY <M3>

400	YMA0034A-E	MECHA(B)ASSY
401	LY20612-001B	MAIN DECK ASSY
402	LY31817-001A	CASSETTE GUIDE(LEFT)
403	LY31815-001A	SW LEVER(LEFT)
404	LY42581-001A	TORSION SPRING
405	LY42722-001A	SCREW
406	YQ44339A-7	CASSETTE GUIDE ASSY(RIGHT)
406A	YQ32162-1-3	SW.LEVER(RIGHT)
406B	YQ44340-1-4	TORSION SPRING
407	LY42819-001A	SCREW
408	LY31826-001A	MOTOR BRACKET ASSY
409	YQ20793	WORM BRACKET
410	LY42722-001A	SCREW,X3
411	LY31925-001A	WHEEL GEAR
412	LY42730-001A	MIDDLE GEAR
413	LY42521-001A	CANCEL LEVER ASSY
414	LY42754-003A	SLIT WASHER,X2
415	YQ20827-2-1	CONTROL CAM
416	PQM30017-25	SLIT WASHER
417	LY42733-001A	LOADING GEAR(T)ASSY
418	LY42754-003A	SLIT WASHER
419	LY42732-001A	LOADING GEAR(S)ASSY
420	LY42754-003A	SLIT WASHER
421	LY42403-001A	COVER PLATE
422	LY42452-001A	LOADING RING ASSY
423	LY42728-001A	SCREW,X4
424	LY10239-001A	GUIDE RAIL
425	LY42728-001A	SCREW,X8
426	LY30161-001B	POLE BASE(S)ASSY
427	LY30162-002A	POLE BASE(T)ASSY
428	LY42523-001A	DRIVE LEVER ASSY
429	LY42545-001A	SLANT ARM ASSY
429A	LY42547-001A	TORSION SPRING(S)
430	LY42754-003A	SLIT WASHER
431	LY42739-003A	ROLLER BASE ASSY
432	LY42722-001A	SCREW
433	LY42494-001A	LINK ARM ASSY
434	PQM30017-25	SLIT WASHER
435	LY40018-002A	PINCH ROLLER ARM ASSY
436	PQM30017-25	SLIT WASHER
437	LY42541-001B	TAKE UP GUIDE ARM ASSY
438	LY42754-003A	SLIT WASHER
439	LY42571-001A	TENSION ARM ASSY
439A	LY42669-001A	TENSION SPRING
440	LY42754-003A	SLIT WASHER
441	YQ20797-1-5	MOTOR BASE
442	LY42722-001A	SCREW,X2
443	YQ44460	SCREW
444	QAR0212-001	CAPSTAN MOTOR
445	YQ44304	TAPPING SCREW,X3
446	LY42731-001A	SLANT POLE BASE ASSY
447	YQ44304	TAPPING SCREW
448	YQ43710-2	TIMING BELT
449	LY42678-001A	CENTER PULLEY UNIT
450	LY42722-002A	SCREW,X2
451	LY42670-001A	SUPPLY CLUTCH ASSY
452	LY42754-003A	SLIT WASHER
453	YQ31861-1-7	REEL DISC
454	LY42755-001A	WASHER

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
455	LY31924-001A	TAKE UP GEAR
456	LY42738-001A	BRAKE SUB GEAR
457	LY42754-003A	SLIT WASHER,X3
458	LY42544-001B	A/C HEAD UNIT
459	SPSN1750Z	SCREW,X2
460	LY42517-001A	EJECT LEVER ASSY
461	LY42754-003A	SLIT WASHER
462	YQ31833-1-1	LED GUIDE
463	LY42722-001A	SCREW
464	LY42729-001A	DRUM SPACER
465	LY42722-001A	SCREW,X2
466	QSW0888-002	ROTARY ENCODER
467	LY42722-002A	SCREW,X4
468	LY31814-001A	LINK LEVER
469	YDV2098A	DRUM ASSY
469A	YDM1003-1-5	CATCHER
469B	QYSPSPU1735M	SCREW,X2
470	LY42722-001A	SCREW,X2
471	SPSH1740Z	SCREW,X2
472	LY43542-001A	BRUSH
473	LY42722-003A	SCREW

5.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4>

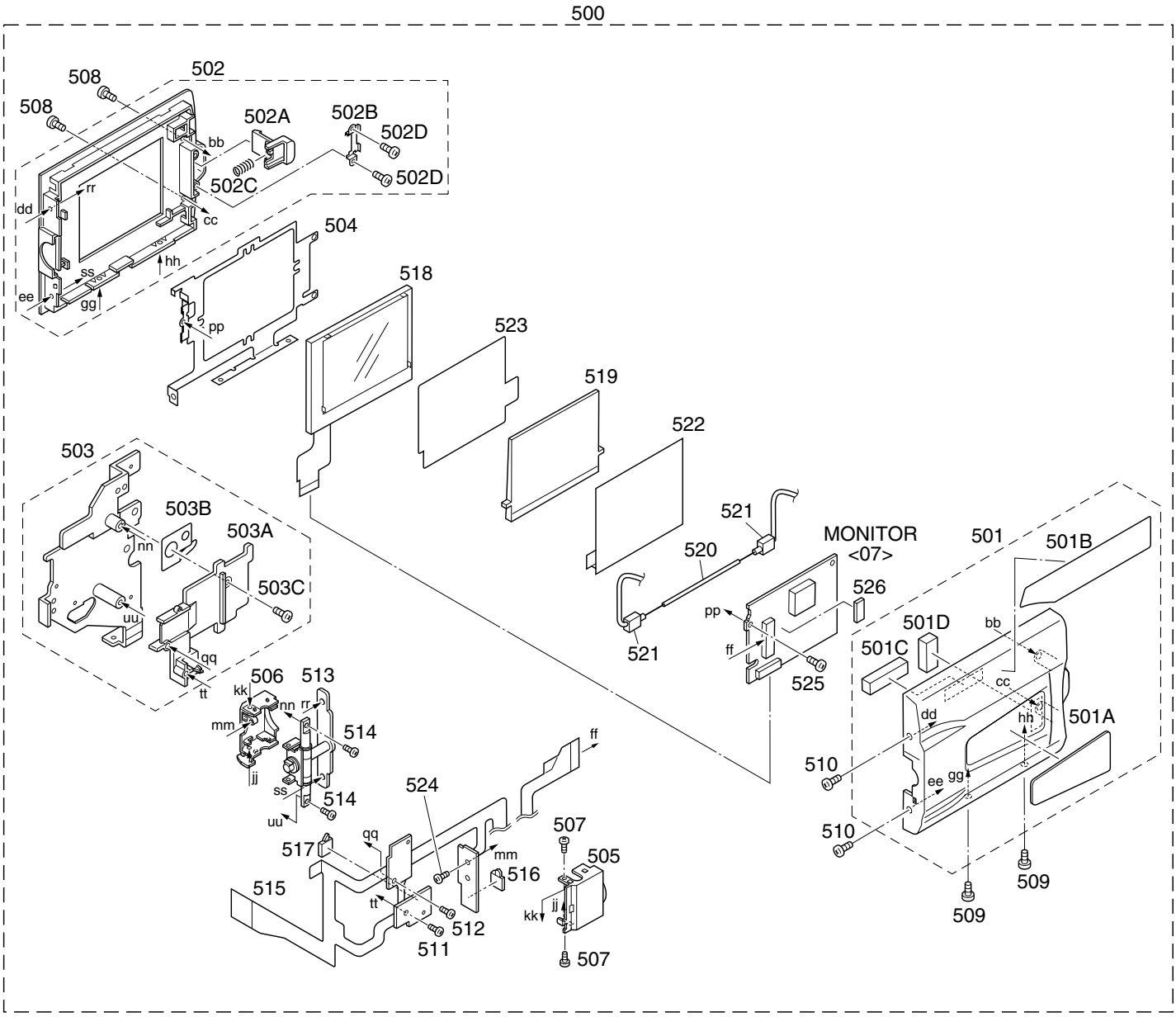


#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
**********				

ELECTRONIC VIEWFINDER ASSEMBLY <M4>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	350	LY20701-007A	B/W VF ASSY
	⚠	351	PEDP0193	CRT
	⚠	352	QQD0026-001	DEFLECTION YOKE
	⚠	353	LY10165-001B	CASE(L)
		354	QYSPSGU1760M	TAP SCREW,X2
	⚠	355	LY41280-001A	SHEET(SHIELD)
	⚠	356	PTY20701-011	BOTTOM CASE ASSY
		357	PTY20374-201	LENS ASSY
		357A	LY20411-001A	EYE CAP

5.5 MONITOR ASSEMBLY <M5> [GR-SXM340U]



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

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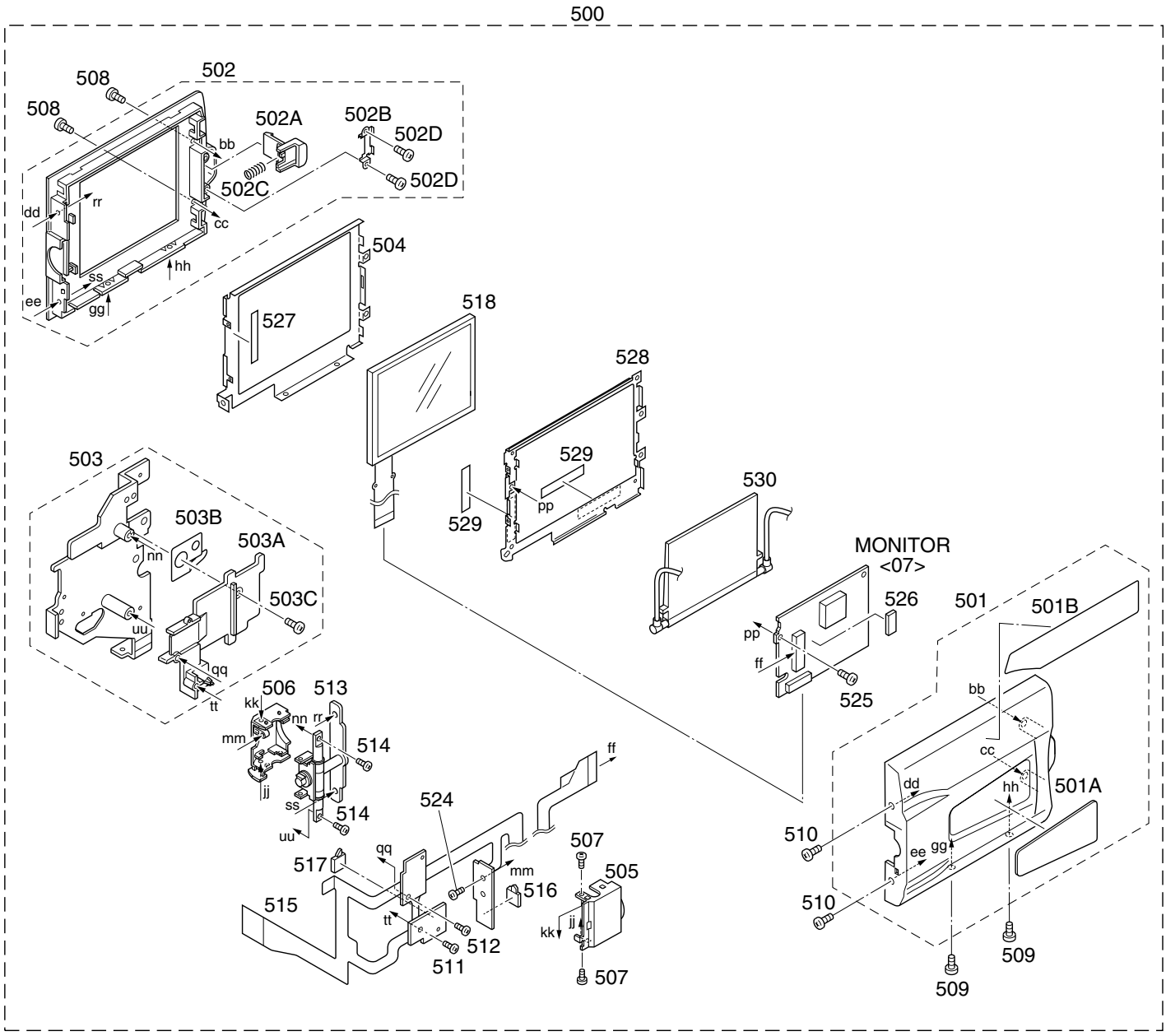
MONITOR ASSEMBLY <M5>[GR-SXM340U]

⚠	500	LY20836-005A	MONITOR ASSY
⚠	501	LY20834-004A	MONITOR COVER ASSY
	501A	LY32329-002A	PLATE(WINDOW)
	501B	LY32554-003A	STICKER(B)
	501C	LY30029-0R3A	SPACER(A)
	501D	LY30029-0R4A	SPACER(A)
	502	LY32036-001A	MONITOR CASE(2.5)ASSY
	502A	LY31954-001A	KNOB(LOCK)
	502B	LY42760-001A	BRACKET(LOCK)
	502C	LY30002-043A	COMPRESSION SPRING
	502D	LY30018-063A	SPECIAL SCREW,X2
	503	LY32034-003A	BRACKET(UPPER)ASSY
	503A	LY20652-003A	HOLDER
	503B	LY42761-001A	EARTH PLATE
	503C	QYSLSP2025D	SCREW
	504	LY32330-001A	SHIELD CASE(2.5)
	505	LY31939-004A	HINGE COVER(UPPER)
	506	LY31940-001A	HINGE COVER(LOWER)
	507	LY30018-0C9A	SPECIAL SCREW,X2
	508	LY30018-052A	SPECIAL SCREW,X2
	509	LY30018-0C9A	SPECIAL SCREW,X2
	510	LY30018-0C5A	SPECIAL SCREW,X2
	511	QYSLSF2040D	SCREW
	512	QYSLSP2070D	SCREW
	513	LY31957-001A	HINGE ASSY
	514	LY30018-090A	SPECIAL SCREW,X2
	515	QAL0391-001	FPC
	516	NSW0095-001X	DETECT SWITCH,RVS SW
	517	NSW0105-001X	DETECT SWITCH,OPEN SW
	518	QLD0176-001	LCD MODULE
	519	LY43392-001A	LIGHT SCREEN
	520	QLL0110-001	LAMP
	521	LY43393-001A	HOLDER,X2
	522	LY43396-001A	SHEET(REFLECT)
	523	LY43362-001A	DIFFUSION SHEET(2.5)
	524	LY30018-063A	SPECIAL SCREW
	525	LY30018-0C9A	SPECIAL SCREW
	526	LY30016-049A	SPACER-A

5.5 MONITOR ASSEMBLY <M5> [GR-SXM740U]



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

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MONITOR ASSEMBLY <M5>[GR-SXM740U]

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	500	LY20836-007A	MONITOR ASSY
	⚠	501	LY20816-001A	MONITOR COVER ASSY
		501A	LY32329-002A	PLATE(WINDOW)
		501B	LY32554-003A	STICKER(B)
		502	LY32544-001A	MONITOR CASE(3.5)ASSY
		502A	LY31954-001A	KNOB(LOCK)
		502B	LY42760-001A	BRACKET(LOCK)
		502C	LY30002-043A	COMPRESSION SPRING
		502D	LY30018-063A	SPECIAL SCREW,X2
		503	LY32034-003A	BRACKET(UPPER)ASSY
		503A	LY20652-003A	HOLDER
		503B	LY42761-001A	EARTH PLATE
		503C	QYSLSP2025D	SCREW
		504	LY32334-001A	SHIELD CASE(3.5)
		505	LY31939-001A	HINGE COVER(UPPER)
		506	LY31940-001A	HINGE COVER(LOWER)
		507	LY30018-0C9A	SPECIAL SCREW,X2
		508	LY30018-052A	SPECIAL SCREW,X2
		509	LY30018-0C9A	SPECIAL SCREW,X2
		510	LY30018-0C5A	SPECIAL SCREW,X2
		511	QYSLSF2040D	SCREW
		512	QYSLSP2070D	SCREW
		513	LY31957-001A	HINGE ASSY
		514	LY30018-090A	SPECIAL SCREW,X2
		515	QAL0391-001	FPC
		516	NSW0095-001X	DETECT SWITCH,RVS SW
		517	NSW0105-001X	DETECT SWITCH,OPEN SW
		518	QLD0212-001	LCD MODULE
		524	LY30018-063A	SPECIAL SCREW
		525	LY30018-0C9A	SPECIAL SCREW
		526	LY30016-049A	SPACER-A
		527	LY30029-0R6A	SPACER(A)
		528	LY32335-001A	LCD FRAME(3.5)
		529	LY30029-0R5A	SPACER(A),X2
		530	QLL0113-001	BACK LIGHT

5.6 ELECTRICAL PARTS LIST

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
**********		

MAIN BOARD ASSEMBLY <01>

	PW1	YB10356UB1-01	MAIN BOARD ASSY,SXM340U
		YB10356UK1-01	MAIN BOARD ASSY,SXM740U
	IC101	UPD703039-040	EC(MICRO C ROM)
		or UPD70F3040-040	IC(MICRO C ROM)
	IC102	AT25080N-10SC-X	IC
		or CAT25C08SI	IC
		or X25170S8I-2.5-X	IC
		or 25LC080-I/SN-X	IC
	IC103	RS5C314	IC
	IC104	IC-PST3427U-X	IC
	IC105	TC7S66FU-X	IC(DIGITAL)
⚠	IC1601	LB11951WA-MPB	IC
	IC1602	TA75S393F	IC
	IC2001	MC74AC04DT	IC
		or TC74AC04FT	IC(DIGITAL)
	IC2401	NJM2149V	IC
	IC3501	HA118224F	IC
	IC4001	JCY0140-3	IC
	IC4002	Z4C2973-32-X	IC
		or TMS4C2973-28-X	IC
	IC4003	UPD6467GR-512-X	IC(MICRO C ROM)
	IC4201	BA10324AF-XE	IC
	IC4202	BA10324AF-XE	IC
	IC4501	UPD16835AGS	IC
	IC4702	BA7665FS	IC
	IC5201	HD49326BF	IC
	IC5202	JCY0098	IC
	IC6001	FA7706F	IC
	IC6801	S-814A33AUC-W	IC
	IC8001	MAX3221CAE	IC
		or ICL3221CA	IC
		or MAX3221CDB	IC
	Q101	2SA1774/RS/-X	TRANSISTOR
		or 2SA1836/6-7/-X	TRANSISTOR
	Q102	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213J	TRANSISTOR
	Q103	2SC4617/QR/-X	TRANSISTOR
		or 2SC4783/5-6/-X	TRANSISTOR
	Q104	DTC144EE	TRANSISTOR
		or RN1104	TRANSISTOR
		or UN9213J	TRANSISTOR
	Q105	2SA1774/RS/-X	TRANSISTOR
		or 2SA1836/6-7/-X	TRANSISTOR
	Q108	DTC114EE	TRANSISTOR
		or RN1102	TRANSISTOR
		or UN9211J	TRANSISTOR
	Q109	DTC114EE	TRANSISTOR
		or RN1102	TRANSISTOR
		or UN9211J	TRANSISTOR
	Q1601	2SC4617/QR/-X	TRANSISTOR
		or 2SC4783/5-6/-X	TRANSISTOR
	Q2001	DTA114TE	TRANSISTOR
	Q2007	PUMX1	PAIR TRANSISTOR
		or UMX1N	PAIR TRANSISTOR
		or HN1C01FU/G/-X	PAIR TRANSISTOR
	Q2008	PUMT1	PAIR TRANSISTOR
		or HN1A01FU/G/-X	PAIR TRANSISTOR
		or UMT1N	PAIR TRANSISTOR

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
Q2021	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
Q2022	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
Q2023	2SC4617/QR/-X	TRANSISTOR
	or 2SC4783/5-6/-X	TRANSISTOR
Q2071	2SC4617/QR/-X	TRANSISTOR
	or 2SC4783/5-6/-X	TRANSISTOR
Q2401	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
Q3501	HN1C01FU/G/-X	PAIR TRANSISTOR
Q3502	HN1C01FU/G/-X	PAIR TRANSISTOR
Q3505	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
Q3901	HN1A01FU/G/-X	PAIR TRANSISTOR
Q4001	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
Q4201	2SC4617/QR/-X	TRANSISTOR
	or 2SC4783/5-6/-X	TRANSISTOR
Q4202	2SC4617/QR/-X	TRANSISTOR
	or 2SC4783/5-6/-X	TRANSISTOR
Q4251	RPM-22PB	PHOTO TRANSISTOR
Q4501	DTC114EE	TRANSISTOR
	or RN1102	TRANSISTOR
	or UN9211J	TRANSISTOR
Q4701	2SA1774/QR/-X	TRANSISTOR
	or 2SA1836/5-6/-X	TRANSISTOR
Q4702	2SA1774/QR/-X	TRANSISTOR
	or 2SA1836/5-6/-X	TRANSISTOR
Q6101	SSM5G01TU	MOS FET
Q6201	SSM5G01TU	MOS FET
Q6301	FDC6506P	MOS FET
Q6306	SSM3K02F	MOS FET
Q6401	SSM5G01TU	MOS FET
Q6501	SSM5G01TU	MOS FET
Q6608	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
Q6621	HN1C01FU/G/-X	PAIR TRANSISTOR,SXM740U
Q6622	2SA1577/QR/-X	TRANSISTOR,SXM740U
Q6701	TPC6102	MOS FET
Q6702	2SC4097/QR/-X	TRANSISTOR
	or 2SC4173/3-4/-X	TRANSISTOR
Q6802	DTA113ZU	TRANSISTOR
Q6811	2SA1577/QR/-X	TRANSISTOR
	or 2SA1608/3-4/-X	TRANSISTOR
Q7011	PUMX1	PAIR TRANSISTOR
	or HN1C01FU/G/-X	PAIR TRANSISTOR
	or UMX1N	PAIR TRANSISTOR
Q7013	PUMX1	PAIR TRANSISTOR
	or UMX1N	PAIR TRANSISTOR
	or HN1C01FU/G/-X	PAIR TRANSISTOR
Q7015	PUMX1	PAIR TRANSISTOR
	or HN1C01FU/G/-X	PAIR TRANSISTOR
	or UMX1N	PAIR TRANSISTOR
Q7301	2SA1774/QR/-X	TRANSISTOR
	or 2SA1836/5-6/-X	TRANSISTOR
Q7310	CPH3101	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		Q7311	2SC4617/QR/-X	TRANSISTOR	
			or 2SC4783/5-6/-X	TRANSISTOR	
	⚠	D101	SB007W03Q	SB DIODE	
		D102	UDZS7.5B	ZENER DIODE	
		D103	1SS355	DIODE	
		D104	1SS355	DIODE	
		D4001	DAN222	DIODE	
		D5201	1SS355	DIODE	
		D6301	MBR130	SB DIODE	
		D6601	RB480Y	SB DIODE	
		D6602	RB480Y	SB DIODE	
		D6616	UDZS8.2B	ZENER DIODE	
		D6701	CRS09	SB DIODE	
		D6702	CRS09	SB DIODE	
		D8001	EMZ6.8N	ZENER DIODE	
		D8002	EMZ6.8N	ZENER DIODE	
		R101	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R102	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R103	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R105	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R106	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R107	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W
		R108	NRVA63D-243X	CMF RESISTOR	24kΩ,1/16W
		R109	NRVA63D-183X	CMF RESISTOR	18kΩ,1/16W
		R110	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R111	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R112	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R113	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R114	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R115	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R117	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R118	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R119	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R120	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R121	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R122	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
		R125	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R126	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R127	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R128	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R129	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R130	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R136	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
		R138	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
		R139	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R140	NRSA63J-753X	MG RESISTOR	75kΩ,1/16W
		R141	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R142	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R143	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R144	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R145	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R146	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R147	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R148	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R149	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R150	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R151	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R152	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
		R153	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
		R154	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R155	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	⚠	R156	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R157	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R162	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R163	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R164	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R165	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R166	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R167	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R168	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R169	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R170	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
		R171	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R172	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R177	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R178	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R181	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R182	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R183	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R185	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R188	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R189	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R190	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R1601	NRV142F-R33X	CMF RESISTOR	0.33Ω,1/4W
		R1602	NRV142F-R33X	CMF RESISTOR	0.33Ω,1/4W
		R1603	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1604	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1605	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R1606	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R1607	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1608	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
		R1609	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1610	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R1611	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1612	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1613	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R1615	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R1616	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R1617	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1618	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R1619	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R1620	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R1621	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R1622	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R1623	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1624	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
		R1625	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
		R1626	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1627	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R1628	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R2001	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R2002	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
		R2003	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R2004	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R2005	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R2006	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R2011	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R2012	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R2021	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R2022	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
		R2023	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R2024	NRSA63J-133X	MG RESISTOR	13kΩ,1/16W
		R2025	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W
		R2027	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R2028	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R2030	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	R2031	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R2051	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2071	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
	R2072	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
	R2401	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
	R2402	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R2403	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R3501	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R3502	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R3506	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R3507	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R3508	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
	R3901	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R3902	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R3903	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
	R4001	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R4002	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R4003	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
	R4004	NRSA63D-153X	MG RESISTOR	15kΩ,1/16W
	R4009	NRSA63D-153X	MG RESISTOR	15kΩ,1/16W
	R4010	NRSA63D-153X	MG RESISTOR	15kΩ,1/16W
	R4013	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R4014	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4016	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R4019	NRSA63D-822X	MG RESISTOR	8.2kΩ,1/16W
	R4020	NRSA63D-471X	MG RESISTOR	470Ω,1/16W
	R4021	NRSA63D-181X	MG RESISTOR	180Ω,1/16W
	R4022	NRSA63D-182X	MG RESISTOR	1.8kΩ,1/16W
	R4025	NRSA63D-222X	MG RESISTOR	2.2kΩ,1/16W
	R4026	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
	R4027	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4028	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4029	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4032	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R4033	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
	R4034	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R4035	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R4201	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4202	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R4203	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R4204	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
	R4205	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R4206	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4207	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4208	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R4209	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4210	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R4211	NRSA63J-243X	MG RESISTOR	24kΩ,1/16W
	R4214	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R4215	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
	R4216	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4217	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R4218	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R4219	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4220	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
	R4221	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
	R4222	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
	R4223	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
	R4224	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R4251	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
	R4252	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4253	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4254	NRSA63J-684X	MG RESISTOR	680kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	R4255	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R4256	NRSA63J-824X	MG RESISTOR	820kΩ,1/16W
	R4257	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
	R4258	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R4259	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
	R4262	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
⚠	R4501	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠	R4502	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠	R4503	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠	R4504	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
	R4505	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R4507	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4508	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R4512	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R4514	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R4515	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
	R4701	NRSA63D-112X	MG RESISTOR	1.1kΩ,1/16W
	R4703	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
	R4704	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
	R4706	NRSA63D-680X	MG RESISTOR	68Ω,1/16W
	R4707	NRSA63D-751X	MG RESISTOR	750Ω,1/16W
	R4709	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
	R4710	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
	R4712	NRSA63D-680X	MG RESISTOR	68Ω,1/16W
	R4713	NRSA63D-680X	MG RESISTOR	68Ω,1/16W
	R5201	NRSA63J-243X	MG RESISTOR	24kΩ,1/16W
	R5202	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
	R5213	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5214	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5215	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R5216	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5217	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6001	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6002	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
	R6003	NRVA63D-912X	CMF RESISTOR	9.1kΩ,1/16W
	R6004	NRVA63D-681X	CMF RESISTOR	680Ω,1/16W
	R6005	NRVA63D-203X	CMF RESISTOR	20kΩ,1/16W
	R6008	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
	R6012	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R6015	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6021	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R6024	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
	R6025	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6026	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6027	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6028	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6029	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6103	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
	R6104	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
	R6203	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
	R6204	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
	R6303	NRVA63D-183X	CMF RESISTOR	18kΩ,1/16W
	R6304	NRVA63D-472X	CMF RESISTOR	4.7kΩ,1/16W
	R6306	NRS12BK-R47W	MG RESISTOR	0.47Ω,1/2W
	R6307	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R6401	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R6501	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R6502	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
	R6603	NRVA63D-683X	CMF RESISTOR	68kΩ,1/16W
	R6604	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
	R6605	NRSA63J-274X	MG RESISTOR	270kΩ,1/16W
	R6606	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
	R6612	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R6613	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R6614	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R6616	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R6622	NRVA63D-104X	CMF RESISTOR,SXM740U	100kΩ,1/16W
R6623	NRVA63D-473X	CMF RESISTOR,SXM740U	47kΩ,1/16W
R6624	NRSA63J-273X	MG RESISTOR,SXM740U	27kΩ,1/16W
R6625	NRSA63J-822X	MG RESISTOR,SXM740U	8.2kΩ,1/16W
R6626	NRVA63D-273X	CMF RESISTOR,SXM740U	27kΩ,1/16W
R6627	NRVA63D-183X	CMF RESISTOR,SXM740U	18kΩ,1/16W
R6702	NRSA63J-330X	MG RESISTOR	33Ω,1/16W
R6704	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R6706	NRZ0058-R20X	MG RESISTOR	0.2Ω,1/2W
R6707	NRS016J-121X	MG RESISTOR	120Ω,1W
R6708	NRS016J-121X	MG RESISTOR	120Ω,1W
R6709	NRS016J-121X	MG RESISTOR	120Ω,1W
R6710	NRVA63D-823X	CMF RESISTOR	82kΩ,1/16W
R6711	NRVA63D-333X	CMF RESISTOR	33kΩ,1/16W
R6713	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R6715	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R6801	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R6802	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R6811	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R6812	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R6961	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7077	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7086	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7091	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7096	NRVA63D-123X	CMF RESISTOR	12kΩ,1/16W
R7110	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R7112	NRVA63D-332X	CMF RESISTOR	3.3kΩ,1/16W
R7114	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R7116	NRVA63D-332X	CMF RESISTOR	3.3kΩ,1/16W
R7118	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R7120	NRVA63D-332X	CMF RESISTOR	3.3kΩ,1/16W
R7122	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R7124	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7127	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7128	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7129	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7130	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7131	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7132	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R7135	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7141	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7301	NRVA63D-182X	CMF RESISTOR	1.8kΩ,1/16W
R7305	NRVA63D-821X	CMF RESISTOR	820Ω,1/16W
R7331	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7332	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R7333	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R8001	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R8002	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R8003	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
RA101	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA102	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA103	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA104	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA106	NRZ0038-101X	NETWORK RESISTOR	100Ω
RA107	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA108	NRZ0038-222X	NETWORK RESISTOR	2.2kΩ
RA109	NRZ0038-474X	NETWORK RESISTOR	470kΩ
RA110	NRZ0038-474X	NETWORK RESISTOR	470kΩ
RA111	NRZ0038-474X	NETWORK RESISTOR	470kΩ
RA112	NRZ0038-104X	NETWORK RESISTOR	100kΩ

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
RA6020	NRZ0038-102X	NETWORK RESISTOR	1kΩ
C103	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C104	NCB31EK-103X	CAPACITOR	0.01µF,25V
C105	NCB21CK-224X	CAPACITOR	0.22µF,16V
C107	NCB31EK-103X	CAPACITOR	0.01µF,25V
C108	NBE21AM-225X	T CAPACITOR	2.2µF,10V
C109	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C110	NDC31HJ-101X	CAPACITOR	100pF,50V
C112	NEA70JM-226X	E CAPACITOR	22µF,6.3V
C113	NCB31EK-103X	CAPACITOR	0.01µF,25V
C114	NCB31EK-103X	CAPACITOR	0.01µF,25V
C115	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C116	NCB31EK-103X	CAPACITOR	0.01µF,25V
C118	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C119	NCB31EK-103X	CAPACITOR	0.01µF,25V
C120	NCB31EK-103X	CAPACITOR	0.01µF,25V
C121	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C122	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C123	NDC31HJ-100X	CAPACITOR	10pF,50V
C124	NDC31HJ-100X	CAPACITOR	10pF,50V
C125	NCB31EK-103X	CAPACITOR	0.01µF,25V
C126	NDC31HJ-100X	CAPACITOR	10pF,50V
C127	NCB31CK-333X	CAPACITOR	0.033µF,16V
C128	NCB21CK-474X	CAPACITOR	0.47µF,16V
C129	NCB31CK-333X	CAPACITOR	0.033µF,16V
C131	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C132	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C133	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C134	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C138	NCB31EK-103X	CAPACITOR	0.01µF,25V
C142	NCB31CK-104X	CAPACITOR	0.1µF,16V
C143	NDC31HJ-3R0X	CAPACITOR	3pF,50V
C1201	NCB31HK-102X	CAPACITOR	0.001µF,50V
C1202	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C1205	NCB31EK-153X	CAPACITOR	0.015µF,25V
C1206	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C1601	NCB21EK-104X	CAPACITOR	0.1µF,25V
C1602	NCB30JK-105X	CAPACITOR	1µF,6.3V
C1603	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C1604	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C1605	NCB31CK-333X	CAPACITOR	0.033µF,16V
C1606	NCB21EK-104X	CAPACITOR	0.1µF,25V
C1607	NCB21CK-474X	CAPACITOR	0.47µF,16V
C1608	NCB31HK-332X	CAPACITOR	0.0033µF,50V
C1609	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C1610	NCB31HK-681X	CAPACITOR	680pF,50V
C1611	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1612	NCB21CK-105X	CAPACITOR	1µF,16V
C1613	NCB31CK-333X	CAPACITOR	0.033µF,16V
C1614	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1615	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1616	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1617	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1618	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1619	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1620	NBE21AM-106X	T CAPACITOR	10µF,10V
C1621	NBP41CM-106X	T CAPACITOR	10µF,16V
C1625	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1628	NDC31HJ-101X	CAPACITOR	100pF,50V
C1630	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C2001	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C2002	NFV41HJ-183X	MPPS CAPACITOR	0.018µF,50V
C2003	NDC31HJ-331X	CAPACITOR	330pF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C2004	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C2005	NCB21CK-105X	CAPACITOR	1µF,16V
C2021	NCB31HK-682X	CAPACITOR	0.0068µF,50V
C2022	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C2023	NBP21CM-105X	T CAPACITOR	1µF,16V
C2024	NCB31HK-122X	CAPACITOR	0.0012µF,50V
C2025	NCB21CK-105X	CAPACITOR	1µF,16V
C2026	NCB31HK-222X	CAPACITOR	0.0022µF,50V
C2027	NCB21CK-474X	CAPACITOR	0.47µF,16V
C2028	NCB21CK-105X	CAPACITOR	1µF,16V
C2029	NCB21CK-105X	CAPACITOR	1µF,16V
C2031	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2032	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C2033	NBE20JM-475X	T CAPACITOR	4.7µF,6.3V
C2034	NCB31CK-104X	CAPACITOR	0.1µF,16V
C2035	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C2036	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C2038	NCB21CK-474X	CAPACITOR	0.47µF,16V
C2051	NCB31EK-103X	CAPACITOR	0.01µF,25V
C2071	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C2072	NCB31HK-222X	CAPACITOR	0.0022µF,50V
C2401	NEA70GM-476X	E CAPACITOR	47µF,4.0V
C2402	NCB21CK-105X	CAPACITOR	1µF,16V
C2403	NBE20JM-475X	T CAPACITOR	4.7µF,6.3V
C2404	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C3506	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3507	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3508	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3510	NCB31CK-104X	CAPACITOR	0.1µF,16V
C3512	NCB10JK-106X	CAPACITOR	10µF,6.3V
C3513	NCB31CK-223X	CAPACITOR	0.022µF,16V
C3514	NCB30JK-105X	CAPACITOR	1µF,6.3V
C3515	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3902	NCB31EK-103X	CAPACITOR	0.01µF,25V
C3903	NDC31HJ-3R0X	CAPACITOR	3pF,50V
C4002	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4003	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4004	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4005	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4007	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4008	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4009	NDC31HG-100X	CAPACITOR	10pF,50V
C4010	NDC31HG-100X	CAPACITOR	10pF,50V
C4012	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4013	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4014	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4015	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4016	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4017	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4018	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4019	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4020	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4021	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4023	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4024	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4025	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4026	NCB10JK-106X	CAPACITOR	10µF,6.3V
C4027	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4028	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4029	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4030	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4031	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4032	NCF31EZ-104X	CAPACITOR	0.1µF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C4033	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4034	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4035	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4036	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4037	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4038	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4039	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4040	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4044	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4045	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4046	NDC31HJ-221X	CAPACITOR	220pF,50V
C4047	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4048	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4201	NEA71HM-225X	E CAPACITOR	2.2µF,50V
C4202	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4203	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4205	NCB31EK-103X	CAPACITOR	0.01µF,25V
C4206	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4207	NCB31EK-103X	CAPACITOR	0.01µF,25V
C4208	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4209	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4210	NCF21CZ-105X	CAPACITOR	1µF,16V
C4251	NEA71HM-335X	E CAPACITOR	3.3µF,50V
C4252	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4253	NCB31EK-153X	CAPACITOR	0.015µF,25V
C4254	NCB31EK-153X	CAPACITOR	0.015µF,25V
C4256	NEA71CM-106X	E CAPACITOR	10µF,16V
C4504	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4505	NDC31HJ-330X	CAPACITOR	33pF,50V
C4506	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4507	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4508	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4509	NCB31HK-102X	CAPACITOR	0.001µF,50V
C4510	NCB31CK-104X	CAPACITOR	0.1µF,16V
C4511	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4512	NEA71CM-107X	E CAPACITOR	100µF,16V
C4702	NDC31HJ-270X	CAPACITOR	27pF,50V
C4703	NDC31HJ-150X	CAPACITOR	15pF,50V
C4704	NCB30JK-105X	CAPACITOR	1µF,6.3V
C4705	NCB31EK-103X	CAPACITOR	0.01µF,25V
C4706	NEA70GM-107X	E CAPACITOR	100µF,4.0V
C4707	NEA70JM-226X	E CAPACITOR	22µF,6.3V
C4708	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4709	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C4713	NEA70JM-226X	E CAPACITOR	22µF,6.3V
C4714	NEA70GM-107X	E CAPACITOR	100µF,4.0V
C4715	NCB31EK-103X	CAPACITOR	0.01µF,25V
C4716	NDC31HJ-270X	CAPACITOR	27pF,50V
C4717	NDC31HJ-150X	CAPACITOR	15pF,50V
C5203	NCB10JK-106X	CAPACITOR	10µF,6.3V
C5207	NCB31EK-103X	CAPACITOR	0.01µF,25V
C5208	NCB31EK-103X	CAPACITOR	0.01µF,25V
C5209	NCB31EK-103X	CAPACITOR	0.01µF,25V
C5210	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5211	NCB21CK-105X	CAPACITOR	1µF,16V
C5212	NCB21CK-105X	CAPACITOR	1µF,16V
C5213	NCB31HK-332X	CAPACITOR	0.0033µF,50V
C5214	NCB31EK-103X	CAPACITOR	0.01µF,25V
C5218	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5219	NBP21CM-685X	T CAPACITOR	6.8µF,16V
C5221	NCB11EK-105X	CAPACITOR	1µF,25V
C5222	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5223	NCF31EZ-104X	CAPACITOR	0.1µF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C5225	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5227	NCB31CK-104X	CAPACITOR	0.1µF,16V
C5228	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5229	NCB11EK-105X	CAPACITOR	1µF,25V
C5230	NCB21EK-104X	CAPACITOR	0.1µF,25V
C5232	NDC31HJ-100X	CAPACITOR	10pF,50V
C5233	NDC31HJ-100X	CAPACITOR	10pF,50V
C5234	NDC31HJ-100X	CAPACITOR	10pF,50V
C5235	NDC31HJ-100X	CAPACITOR	10pF,50V
C5236	NDC31HJ-100X	CAPACITOR	10pF,50V
C5237	NDC31HJ-100X	CAPACITOR	10pF,50V
C6002	NEA71CM-106X	E CAPACITOR	10µF,16V
C6004	NCF21CZ-105X	CAPACITOR	1µF,16V
C6005	NCB21CK-105X	CAPACITOR	1µF,16V
C6006	NCB31EK-103X	CAPACITOR	0.01µF,25V
C6007	NCB21CK-105X	CAPACITOR	1µF,16V
C6009	NDC31HJ-101X	CAPACITOR	100pF,50V
C6010	NCB21CK-224X	CAPACITOR	0.22µF,16V
C6011	NCB31EK-103X	CAPACITOR	0.01µF,25V
C6012	NCB21CK-224X	CAPACITOR	0.22µF,16V
C6013	NCB21CK-154X	CAPACITOR	0.15µF,16V
C6014	NCB31CK-104X	CAPACITOR	0.1µF,16V
C6015	NCB31CK-104X	CAPACITOR	0.1µF,16V
C6016	NCB31EK-473X	CAPACITOR	0.047µF,25V
C6017	NCF21CZ-105X	CAPACITOR	1µF,16V
C6018	NCB21CK-224X	CAPACITOR	0.22µF,16V
C6020	NCB21CK-224X	CAPACITOR	0.22µF,16V
C6021	NCB31EK-103X	CAPACITOR	0.01µF,25V
C6101	NCB21CK-105X	CAPACITOR	1µF,16V
C6102	NCB10JK-106X	CAPACITOR	10µF,6.3V
C6105	NCB31HK-681X	CAPACITOR	680pF,50V
C6110	NCB31HK-152X	CAPACITOR	0.0015µF,50V
C6201	NCB21CK-105X	CAPACITOR	1µF,16V
C6202	NCB10JK-106X	CAPACITOR	10µF,6.3V
C6203	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C6205	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C6210	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C6301	NCB11CK-225X	CAPACITOR	2.2µF,16V
C6302	NCB10JK-106X	CAPACITOR	10µF,6.3V
C6303	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C6305	NCB31HK-561X	CAPACITOR	560pF,50V
C6307	NEA71CM-106X	E CAPACITOR	10µF,16V
C6310	NCB31HK-102X	CAPACITOR	0.001µF,50V
C6401	NCB21CK-105X	CAPACITOR	1µF,16V
C6402	NCF21CZ-105X	CAPACITOR	1µF,16V
C6501	NCB21CK-105X	CAPACITOR	1µF,16V
C6502	NCF21CZ-105X	CAPACITOR	1µF,16V
C6602	NCF21CZ-105X	CAPACITOR	1µF,16V
C6603	NCB11EK-105X	CAPACITOR	1µF,25V
C6606	NCB11EK-105X	CAPACITOR	1µF,25V
C6607	NCF21CZ-105X	CAPACITOR	1µF,16V
C6610	NCB31EK-103X	CAPACITOR	0.01µF,25V
C6616	NCB21CK-105X	CAPACITOR	1µF,16V
C6622	NCB21CK-105X	CAPACITOR,SXM740U	1µF,16V
C6701	NCB21CK-105X	CAPACITOR	1µF,16V
C6702	NCB41CK-106X	CAPACITOR	10µF,16V
C6711	NCB31HK-472X	CAPACITOR	0.0047µF,50V
C6801	NCF21CZ-105X	CAPACITOR	1µF,16V
C6802	NCF21CZ-105X	CAPACITOR	1µF,16V
C6811	NCB21CK-105X	CAPACITOR	1µF,16V
C7051	NCB31EK-103X	CAPACITOR	0.01µF,25V
C7052	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C7053	NCB31EK-103X	CAPACITOR	0.01µF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C7054	NBP41EM-475X	T CAPACITOR	4.7µF,25V
C7064	NCB11EK-105X	CAPACITOR	1µF,25V
C7065	NCB11EK-105X	CAPACITOR	1µF,25V
C7066	NCB11EK-105X	CAPACITOR	1µF,25V
C7069	NCB31EK-103X	CAPACITOR	0.01µF,25V
C7325	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C7326	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C7329	NDC31HJ-100X	CAPACITOR	10pF,50V
C8001	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8002	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8003	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8004	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8005	NBE20JM-106X	T CAPACITOR	10µF,6.3V
C8006	NCF31EZ-104X	CAPACITOR	0.1µF,25V
L101	NQL365K-220X	COIL	22µH
L501	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L1601	NQL144M-1R0X	COIL	1.0µH
L1602	NQL144K-100X	COIL	10µH
L2001	NQL144K-470X	COIL	47µH
L2003	NQL034K-470X	COIL	47µH
L2004	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2005	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2021	NQL315K-470X	COIL	47µH
L2022	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2023	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2051	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2052	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2071	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2072	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
L2401	NQL315K-470X	COIL	47µH
L3502	NQL365K-220X	COIL	22µH
L4001	NQL365K-220X	COIL	22µH
L4201	NQR0006-001X	FERRITE BEAD	
L4501	NQR0006-001X	FERRITE BEAD	
L4502	NQL034K-220X	COIL	22µH
L4701	NQL365K-220X	COIL	22µH
L5201	NQL315K-470X	COIL	47µH
L5202	NQL365K-220X	COIL	22µH
L5203	NQL365K-220X	COIL	22µH
L6001	NQL62EM-100X	COIL	10µH
L6002	NQL62EM-100X	COIL	10µH
L6101	NQL64EM-330X	COIL	33µH
L6201	NQL64EM-470X	COIL	47µH
L6301	NQL52EM-220X	COIL	22µH
L6302	NQR0006-001X	FERRITE BEAD	
L6401	NQLZ011-470X	COIL	47µH
L6501	NQLZ011-470X	COIL	47µH
L6601	NQL52EM-221X	COIL	220µH
L6701	NQL52EM-100X	COIL	10µH
L7005	NQL365K-220X	COIL	22µH
L7006	NQL365K-220X	COIL	22µH
L7304	NQL144K-100X	COIL	10µH
L8001	NQL365K-220X	COIL	22µH
X101	NAX0251-001X	CRYSTAL RESONATOR	
X102	NAX0325-001X	CRYSTAL RESONATOR	
X4001	QAX0709-001	CRYSTAL RESONATOR	
WR1	WJV0039-001A	E-PRIMARY WIRE,JP2001/2002-JP2003/2004	
⚠ J101	QAB0050-001	LI BATTERY	
J504	LY31356-002A	JACK UNIT	
J505	QND0068-001	S JACK	
CN1	QGF0508F1-10X	FPC CONNECTOR	
CN2	QGF0508F1-14X	FPC CONNECTOR	
CN3	QGF0505F2-18X	FPC CONNECTOR	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	CN4	QGA1201F2-02X	CONNECTOR	
	CN5	QGF0508F1-11X	FPC CONNECTOR	
	CN6	QGA1201C2-02X	CONNECTOR	
	CN7	QGF0508F1-11X	FPC CONNECTOR	
	CN8	QGA1201C2-02X	CONNECTOR	
	CN12	QGA1201F2-03X	CONNECTOR	
	CN13	QGF0507F4-14X	FFC/FPC CONNECTOR	
	CN15	QGF0507F3-22X	FFC/FPC CONNECTOR	
	CN16	QGF0508F1-25X	FPC CONNECTOR	
	CN18	QGF0507F4-12X	FFC/FPC CONNECTOR	
	CN22	QGF0508F1-14X	FPC CONNECTOR	
	CN25	QGB0506L1-30X	CONNECTOR	
	CN27	QGA1201C2-02X	CONNECTOR	
	CN28	QGA1002F1-13X	CONNECTOR	
⚠	F6001	NMFZ007-2R0X-K	FUSE	T2.0A,50V
⚠	F6002	NMFZ007-1R25X-K	FUSE	T1.2A,50V
⚠	F6004	NMFZ007-R40X-K	FUSE	T0.4A,50V
⚠	F7301	NMFZ010-R50X-A	FUSE	T0.5A
	OT1	LY30016-049A	SPACER-A	
	OT2	PU59915-105	#500SPACER0.01	
	SD1	LY43421-001A	SHIELD PLATE	

****

CCD BOARD ASSEMBLY <02>

PW2	YB10356A2-01	CCD BOARD ASSY	
Q5301	2SC3931/CD/-X	TRANSISTOR	
	or 2SC4774/RS/-X	TRANSISTOR	
R5301	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R5302	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
C5301	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C5302	NBP21EM-155X	T CAPACITOR	1.5μF,25V
C5303	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C5304	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C5305	NDC31HJ-270X	CAPACITOR	27pF,50V
CN5301	QGF0505F1-14X	FPC CONNECTOR	

****

MONITOR BOARD ASSEMBLY <07>

PW	YB20913D	MONITOR BOARD ASSY,SXM340U
	YB20913F	MONITOR BOARD ASSY,SXM740U
IC7601	MN5814	IC
IC7602	BA4558F	IC
IC7603	SN74AHC1G04K	IC,SXM340U
Q7501	2SD1664/QR/-W	TRANSISTOR
Q7502	2SD1664/QR/-W	TRANSISTOR
Q7503	DTA144EE	TRANSISTOR
	or RN2104	TRANSISTOR
	or UN9113J	TRANSISTOR
Q7504	DTC144EE	TRANSISTOR
	or RN1104	TRANSISTOR
	or UN9213J	TRANSISTOR
Q7601	2SC4617/QR/-X	TRANSISTOR
Q7602	2SA1774/QR/-X	TRANSISTOR

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	Q7603	2SC4617/QR/-X	TRANSISTOR	
	Q7604	2SA1774/QR/-X	TRANSISTOR	
	Q7606	DTA144EE	TRANSISTOR	
		or RN2104	TRANSISTOR	
		or UN9113J	TRANSISTOR	
	Q7607	DTC144EE	TRANSISTOR	
		or UN9213J	TRANSISTOR	
		or RN1104	TRANSISTOR	
	D7601	MA365	VARI CAP DIODE	
	D7602	RB471E	SB DIODE	
	D7603	UDZS5.1B	ZENER DIODE	
	R7501	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7502	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7503	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7601	NRSA63D-103X	MG RESISTOR	10kΩ,1/16W
	R7602	NRSA63D-432X	MG RESISTOR,SXM740U	4.3kΩ,1/16W
		NRSA63D-752X	MG RESISTOR,SXM340U	7.5kΩ,1/16W
	R7603	NRSA63D-333X	MG RESISTOR	33kΩ,1/16W
	R7604	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
	R7605	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
	R7606	NRSA63D-153X	MG RESISTOR	15kΩ,1/16W
	R7607	NRSA63D-153X	MG RESISTOR,SXM740U	15kΩ,1/16W
		NRSA63D-822X	MG RESISTOR,SXM340U	8.2kΩ,1/16W
	R7608	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
	R7610	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R7611	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7612	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
	R7613	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R7615	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7617	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7619	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7621	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7622	NRSA63J-0R0X	MG RESISTOR,SXM740U	0Ω,1/16W
	R7624	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R7625	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7628	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
	R7629	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
	R7630	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
	R7631	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R7632	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R7635	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7636	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7637	NRSA63J-682X	MG RESISTOR,SXM740U	6.8kΩ,1/16W
		NRSA63J-223X	MG RESISTOR,SXM340U	22kΩ,1/16W
	R7638	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7639	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R7640	NRSA02J-122X	MG RESISTOR,SXM740U	1.2kΩ,1/10W
		NRSA02J-182X	MG RESISTOR,SXM340U	1.8kΩ,1/10W
	R7641	NRSA02J-331X	MG RESISTOR,SXM340U	330Ω,1/10W
		NRSA02J-821X	MG RESISTOR,SXM740U	820Ω,1/10W
	R7642	NRSA63J-0R0X	MG RESISTOR,SXM740U	0Ω,1/16W
	R7643	NRSA63J-123X	MG RESISTOR,SXM740U	12kΩ,1/16W
	R7644	NRSA63J-123X	MG RESISTOR,SXM740U	12kΩ,1/16W
	R7645	NRSA63J-123X	MG RESISTOR,SXM740U	12kΩ,1/16W
		NRSA63J-682X	MG RESISTOR,SXM340U	6.8kΩ,1/16W
	R7646	NRSA63J-222X	MG RESISTOR,SXM740U	2.2kΩ,1/16W
		NRSA63J-392X	MG RESISTOR,SXM340U	3.9kΩ,1/16W
	R7648	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R7650	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R7651	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	C7501	NCZ1016-120X	CAPACITOR	12pF,2kV
	C7502	NCB21EK-273X	CAPACITOR	0.027μF,25V
	C7503	NCB31EK-103X	CAPACITOR	0.01μF,25V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C7504	NCB10JK-106X	CAPACITOR	10µF,6.3V
		C7601	NBE20JM-106X	T CAPACITOR	10µF,6.3V
		C7602	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7606	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7607	NBP41EM-475X	T CAPACITOR	4.7µF,25V
		C7608	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7609	NBP41CM-106X	T CAPACITOR	10µF,16V
		C7610	NDC31HJ-330X	CAPACITOR	33pF,50V
		C7611	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7612	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7613	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7614	NCB21CK-334X	CAPACITOR	0.33µF,16V
		C7615	NDC31HJ-331X	CAPACITOR	330pF,50V
		C7616	NDC31HJ-330X	CAPACITOR	33pF,50V
		C7617	NDC31HJ-220X	CAPACITOR	22pF,50V
		C7618	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7619	NDC31HJ-270X	CAPACITOR	27pF,50V
		C7620	NDC31HJ-270X	CAPACITOR	27pF,50V
		C7621	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7622	NCB11CK-225X	CAPACITOR	2.2µF,16V
		C7623	NCB31EK-682X	CAPACITOR,SXM340U	0.0068µF,25V
		C7624	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7625	NCB31EK-103X	CAPACITOR	0.01µF,25V
		C7626	NBP41EM-475X	T CAPACITOR	4.7µF,25V
		C7627	NCB31EK-103X	CAPACITOR,SXM340U	0.01µF,25V
		C7630	NCB31EK-103X	CAPACITOR,SXM740U	0.01µF,25V
		L7501	NQLZ010-680X	COIL	68µH
		L7502	NQL03BK-100X	COIL	10µH
		L7601	NQL38DK-220X	COIL	22µH
		L7603	NQL38DK-220X	COIL,SXM740U	22µH
		L7604	NQL38DK-220X	COIL,SXM340U	22µH
		L7605	NQL085J-4R7X	COIL	4.7µH
		T7501	NQS0056-001X	SW TRANSFORMER	
		CN7601	QGF0503F2-25X	FFC/FPC CONNECTOR	
		CN7602	QGF0508F1-24X	FPC CONNECTOR	
	⚠	F7501	NMFZ007-R40X-K	FUSE	T0.4A,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R7016	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R7017	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R7018	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R7019	NRSA02J-120X	MG RESISTOR	12Ω,1/10W
		R7020	NRSA02J-685X	MG RESISTOR	6.8MΩ,1/10W
		R7021	NRSA02J-475X	MG RESISTOR	4.7MΩ,1/10W
		R7022	NRSA02J-475X	MG RESISTOR	4.7MΩ,1/10W
		R7023	NRSA02J-564X	MG RESISTOR	560kΩ,1/10W
		R7024	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R7025	NRSA02J-275X	MG RESISTOR	2.7MΩ,1/10W
		R7026	NRSA02J-275X	MG RESISTOR	2.7MΩ,1/10W
		VR7001	NVP0001-221X	TRIM RESISTOR,V.SIZE	
		VR7002	NVP0001-225X	TRIM RESISTOR,BRIGHT	
		VR7003	PERE0595-565	V RESISTOR,FOCUS	
		C7001	QFV11HJ-104A	F CAPACITOR	0.1µF,50V
		C7002	QEDP1AM-227	E CAPACITOR	220µF,10V
		C7003	QEDP1AM-227	E CAPACITOR	220µF,10V
		C7004	QEDP1AM-227	E CAPACITOR	220µF,10V
		C7005	NCF21CZ-105X	CAPACITOR	1µF,16V
		C7006	NCB21HK-152X	CAPACITOR	0.0015µF,50V
		C7007	NCB11CK-105X	CAPACITOR	1µF,16V
		C7008	NCF21CZ-105X	CAPACITOR	1µF,16V
		C7009	PECA1131-A107	E CAPACITOR	100µF,10V
		C7010	CM316UJ472J100A	CAPACITOR	
		C7011	NDC21HJ-180X	CAPACITOR	18pF,50V
		C7012	QEKC1HM-105Z	E CAPACITOR	1µF,50V
		C7013	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C7014	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C7015	QCZ0212-151	CAPACITOR	150pF,1kV
		C7016	PECA1006	CAPACITOR	330pF,500V
		L7001	QQR0970-001	LINEARITY COIL	
		L7002	PU49994-220	COIL	22µH
		L7003	PELN1101-680JY	COIL	68µH
	⚠	T7001	QQH0011-002	FB TRANSF	
		CN7001	B4B-ZR	CAP HOUSING	
		CN7002	WJK0095-002A	WIRE ASSY	

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ELECTRONIC VIEWFINDER BOARD ASSEMBLY <60>

	PW	LY41289-005A	ELECTORONIC VIEWFINDER BOARD ASSY
	IC7001	BA7149F-XE	IC
	Q7001	2SD968A(RS)	PH TRANSISTOR
	Q7002	2SA1748(QR)	PH TRANSISTOR
	Q7003	2SA1748(QR)	PH TRANSISTOR
	D7001	MA142WA	SI DIODE
	R7002	NRSA02J-3R9X	MG RESISTOR 3.9Ω,1/10W
	R7003	NRVA02D-153X	CMF RESISTOR 15kΩ,1/10W
	R7005	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
	R7006	NRSA02J-113X	MG RESISTOR 11kΩ,1/10W
	R7007	NRSA02J-330X	MG RESISTOR 33Ω,1/10W
	R7008	NRSA02J-394X	MG RESISTOR 390kΩ,1/10W
	R7009	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
	R7010	NRVA02D-104X	CMF RESISTOR 100kΩ,1/10W
	R7011	NRSA02J-223X	MG RESISTOR 22kΩ,1/10W
	R7012	NRSA02J-221X	MG RESISTOR 220Ω,1/10W
	R7013	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
	R7014	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
	R7015	NRSA02J-223X	MG RESISTOR 22kΩ,1/10W

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

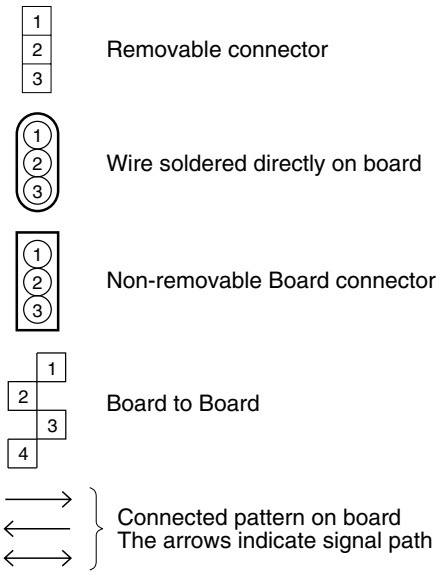
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

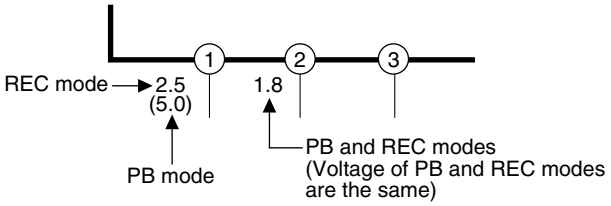
$\overline{\text{AUX}}$ or AUX(L) : Active at low

3. Interpreting Connector indications



4. Voltage measurement

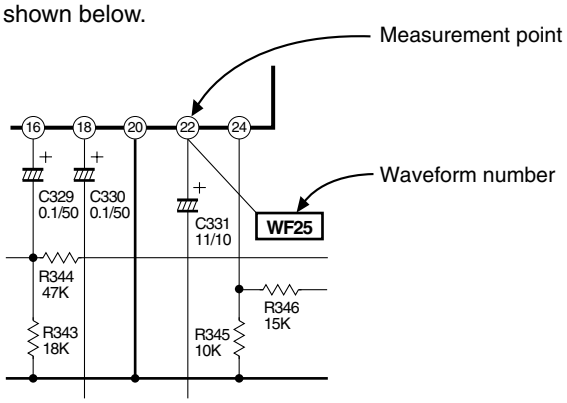
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



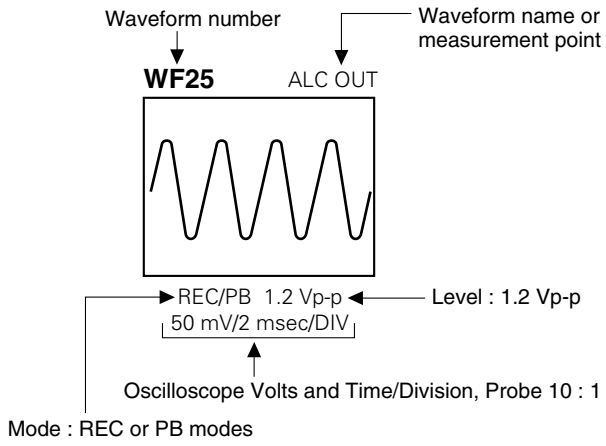
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.



5) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.

Playback signal path

Playback and recording signal path

Recording signal path
(including E-E signal path)

Capstan servo path

Drum servo path

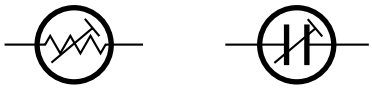
(Example)

R-Y Playback R-Y signal path

Y Recording Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

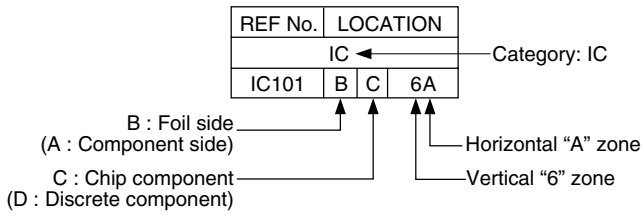
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

Parts location are indicated by guide scale on the circuit board.

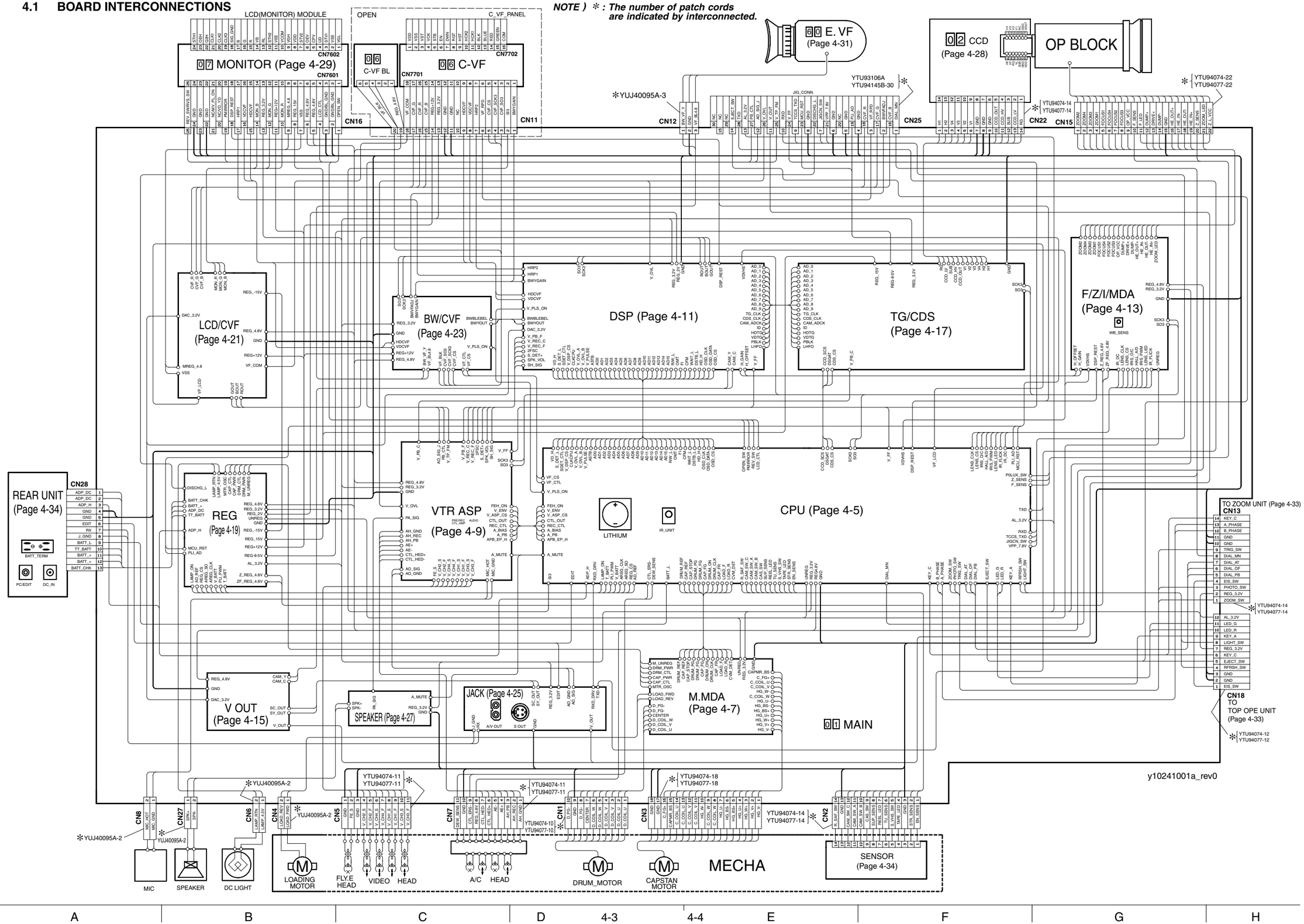


Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS

NOTE) ✻ : The number of patch cords are indicated by interconnected.

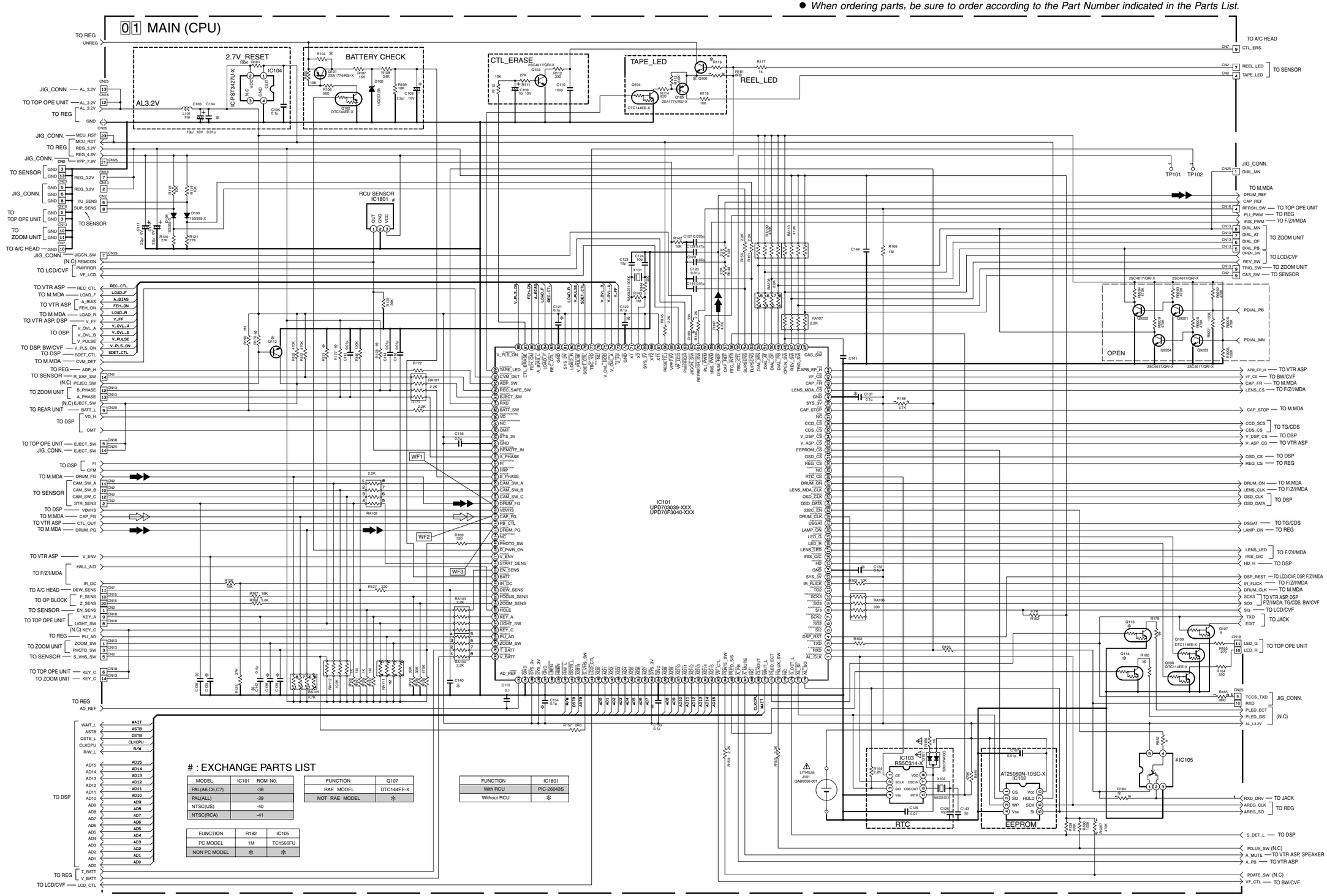


A B C D 4-3 4-4 E F G H

1 2 3 4 5

4.2 CPU SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



MODEL	IC101 ROM NO.
PAL(A6,C6,C7)	-38
PAL(ALL)	-39
NTSC(US)	-40
NTSC(RCA)	-41

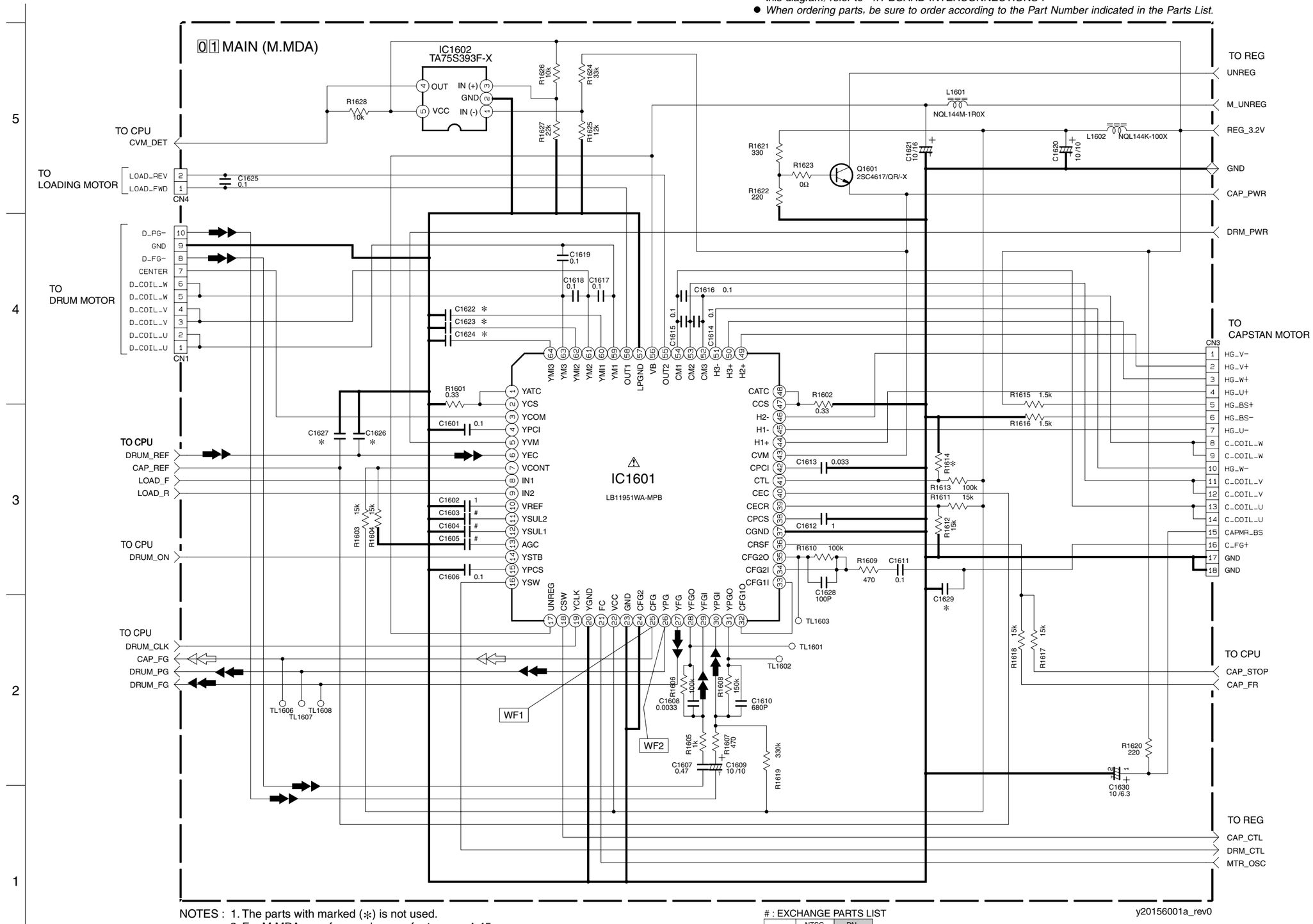
FUNCTION	Q107
RAE MODEL	DTC114EE-X
NOT RAE MODEL	✻

FUNCTION	IC1801
With RCU	PIC-26043S
Without RCU	✻

FUNCTION	R182	IC105
PC MODEL	1M	TC1566FU
NON PC MODEL	✻	✻

4.3 M.MDA SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



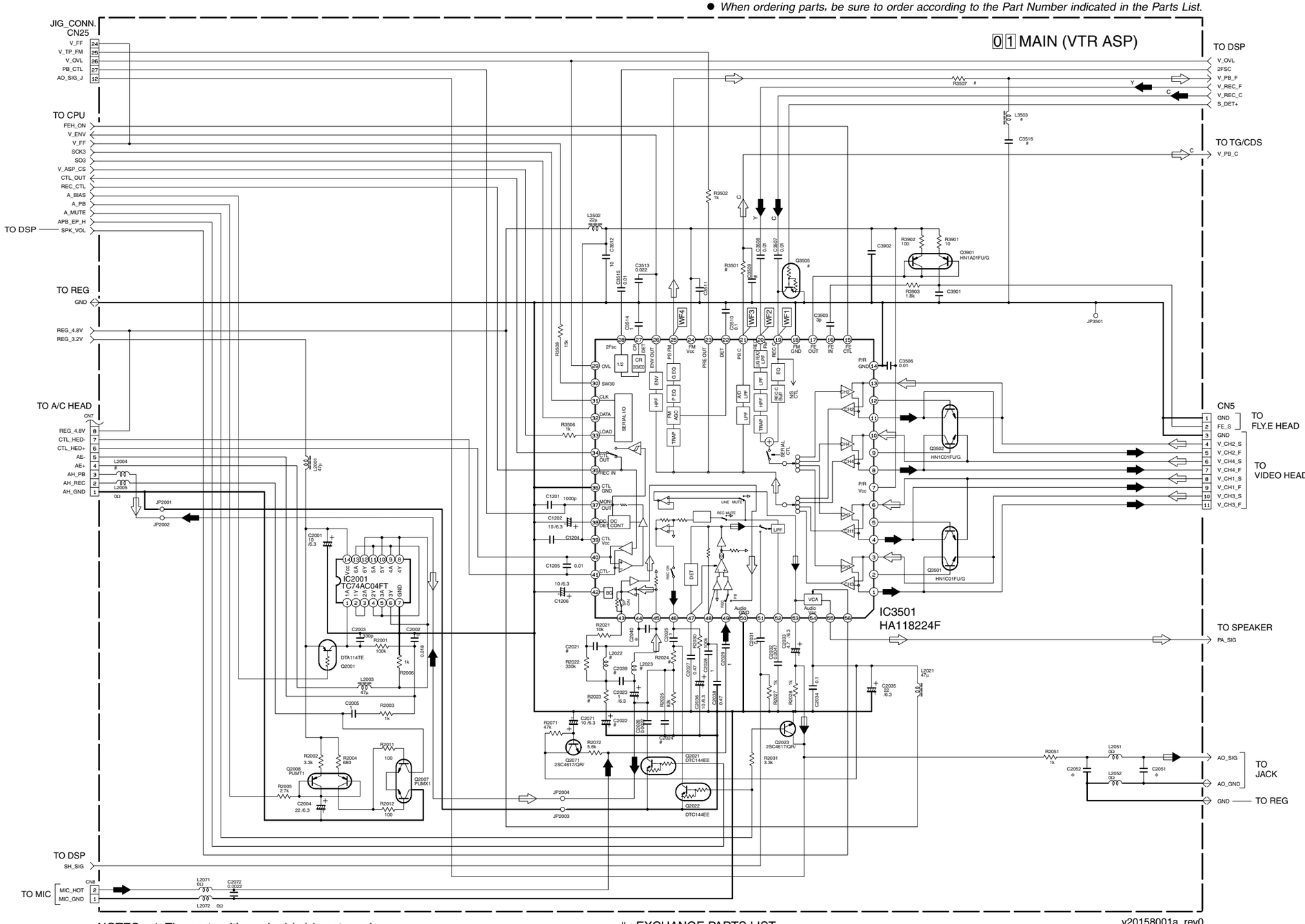
NOTES : 1. The parts with marked (*) is not used.
2. For M.MDA waveforms, please refer to page 4-45.

: EXCHANGE PARTS LIST

	NTSC	PAL
C1603	0.0047	0.01
C1604	0.0047	0.01
C1605	0.033	0.01

4.4 VTR ASP SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTES : 1. The parts with marked (✻) is not used.
2. For VTR ASP waveforms, please refer to page 4-45.

: EXCHANGE PARTS LIST

[VIDEO]

	VHS MODEL	SVHS MODEL
Q3505	✻	DTC144 EE

	NTSC	PAL
R3507	0	100
L3503	✻	5.6
C3516	✻	10p
R3501	0	220
C3509	✻	220p

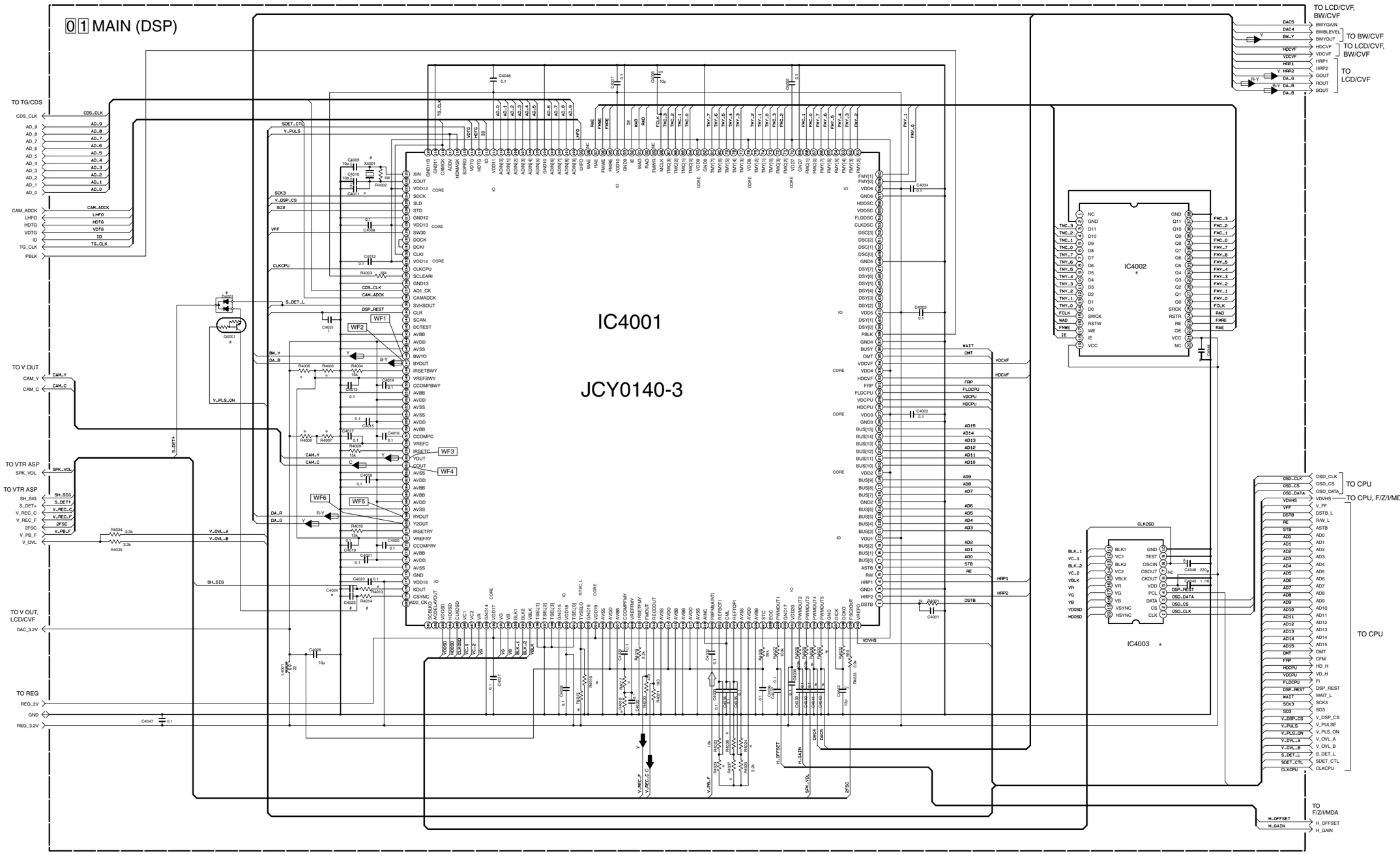
[AUDIO]

	NTSC	PAL
R2023	150	82
R2024	13k	18k
C2021	0.0068	0.01
C2022	10 μ /6.3	15 μ /6.3
C2024	0.0012	0.001

	NTSC	PAL
L2004	0 Ω	NQR0403-003X
L2022	0 Ω	NQR0403-003X
L2023	0 Ω	NQR0406-003X
C2039	✻	33 p

4.5 DSP SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTES : 1. The parts with marked (*) is not used.
2. For DSP waveforms, please refer to page 4-45.

: EXCHANGE PARTS LIST

	X4001	R4015	R4016
NTSC	QAX0709-001	*	0
PAL	QAX0708-001	0	*

	IC4002	C4044
MEMORY MODEL	Z4C2973-32-X	1 µ
NON MEMORY MODEL	*	*

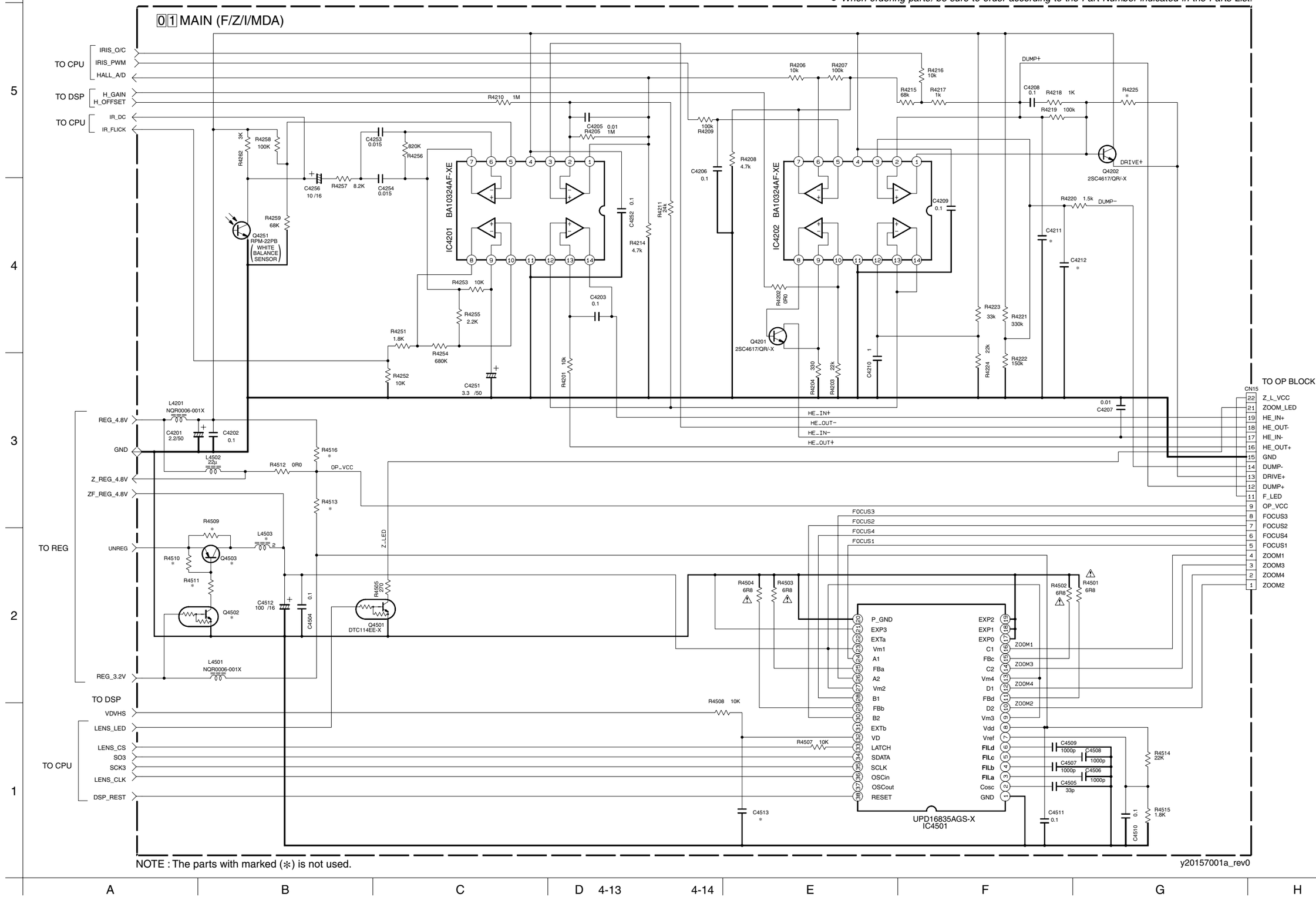
	R4013	C4024
NON PB SNAP SHOT	*	*
PB SNAP SHOT	1k	0.1

	R4014	C4025	Q4001	D4001
VHS MODEL	*	*	*	*
SVHS MODEL	10k	0.1	DTC144EE-X	DAN222-X

	R4030	C4041	R4031	C4042	IC4003
JVC C-VF MODEL	*	*	1k	1 µ	µ PD6467GR-512-X
JVC OTHER MODEL	*	*	*	*	↑
PANASONIC MODEL	1k	1 µ	1k	1 µ	µ PD6467GR-508-X

4.6 F/Z/I/MDA SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

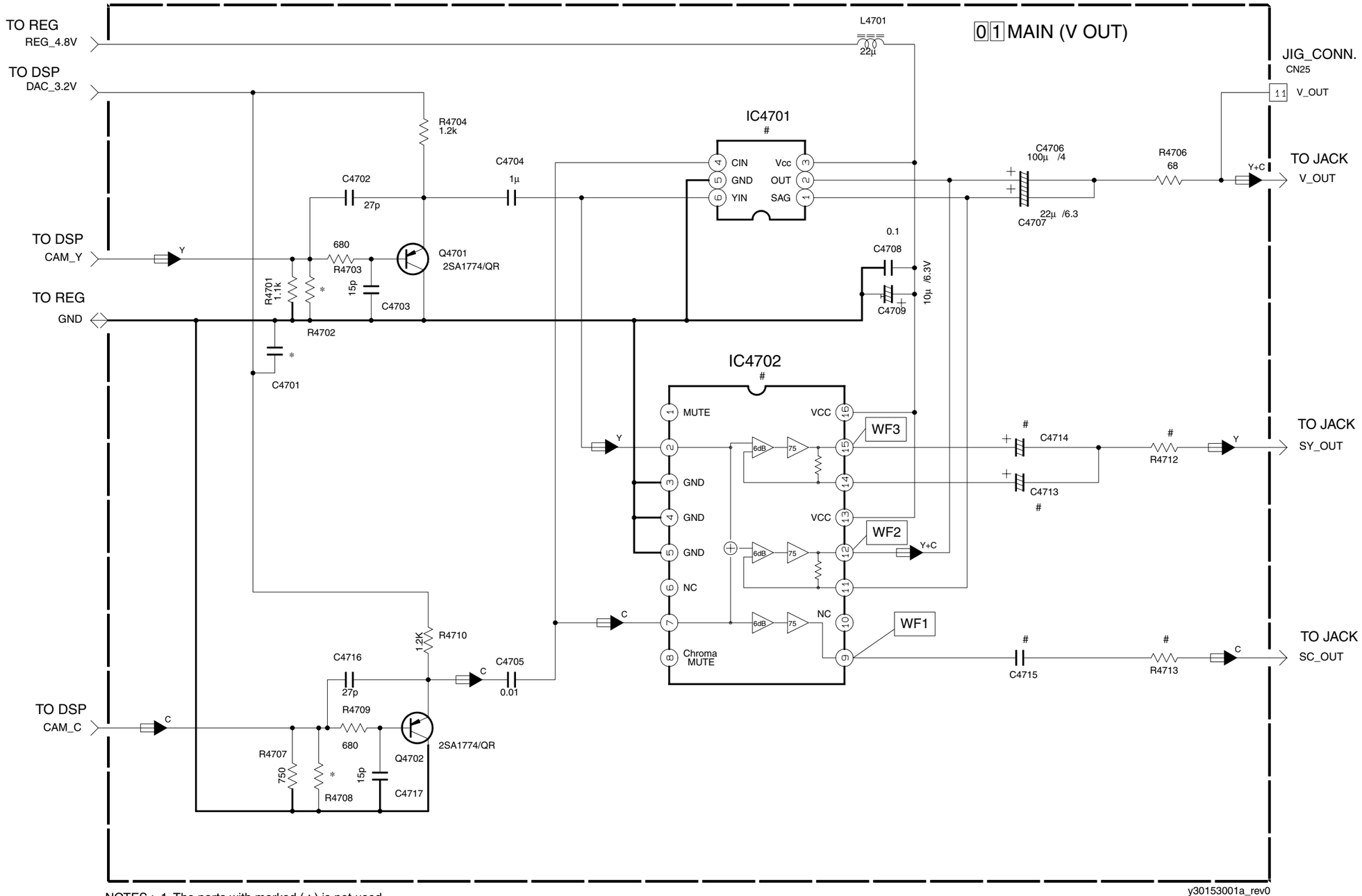


NOTE : The parts with marked (*) is not used.

y20157001a_rev0

4.7 V OUT SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



y30153001a_rev0

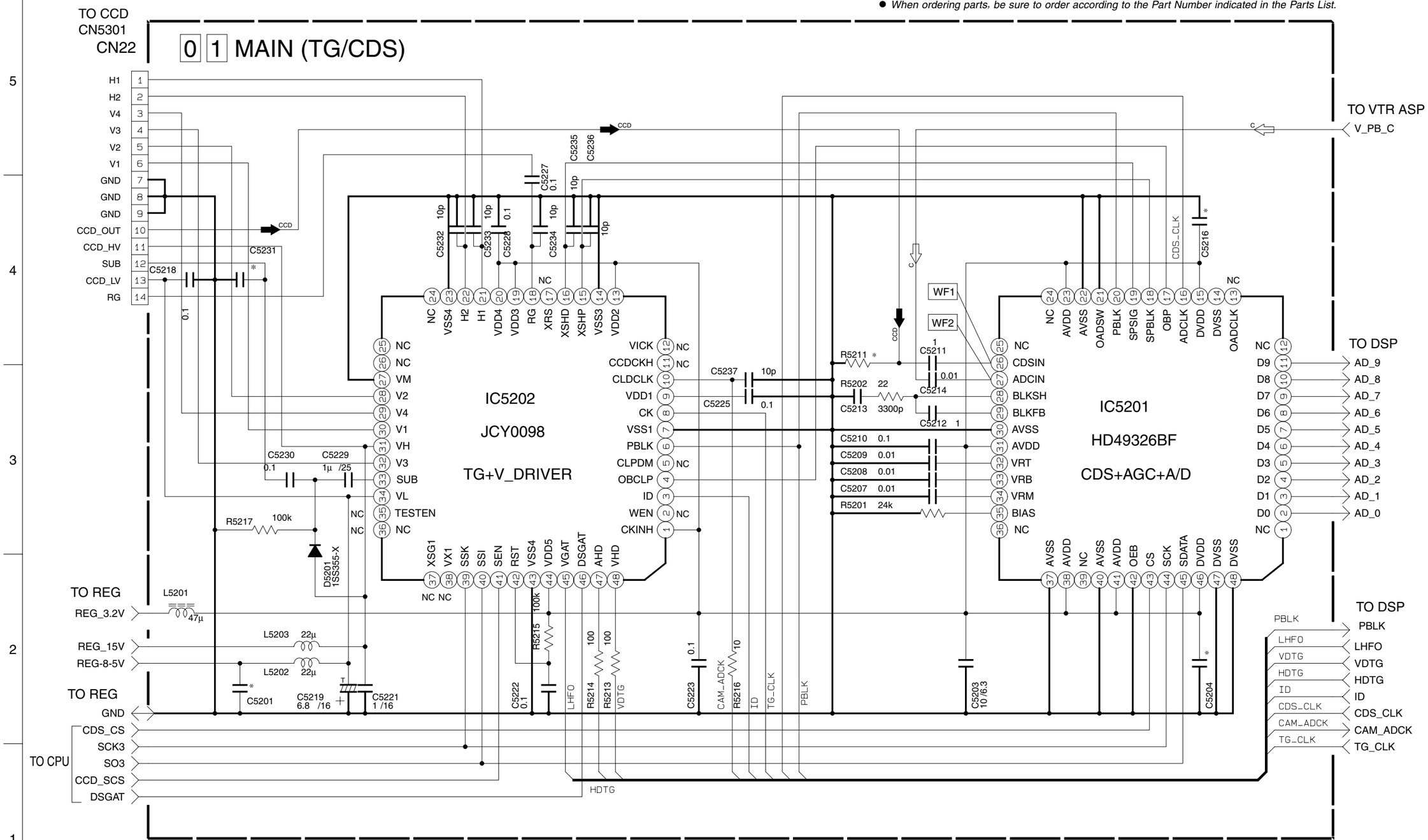
NOTES : 1. The parts with marked (*) is not used.
2. For V OUT waveforms, please refer to page 4-45.

: EXCHANGE PARTS LIST

	IC4701	IC4702	R4712	R4713	C4713	C4714	C4715
VHS MODEL	MM1512XN	*	*	*	*	*	*
SVHS MODEL	*	BA7665FS	68	68	22/6.3	100/4	0.01

4.8 TG/CDS SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

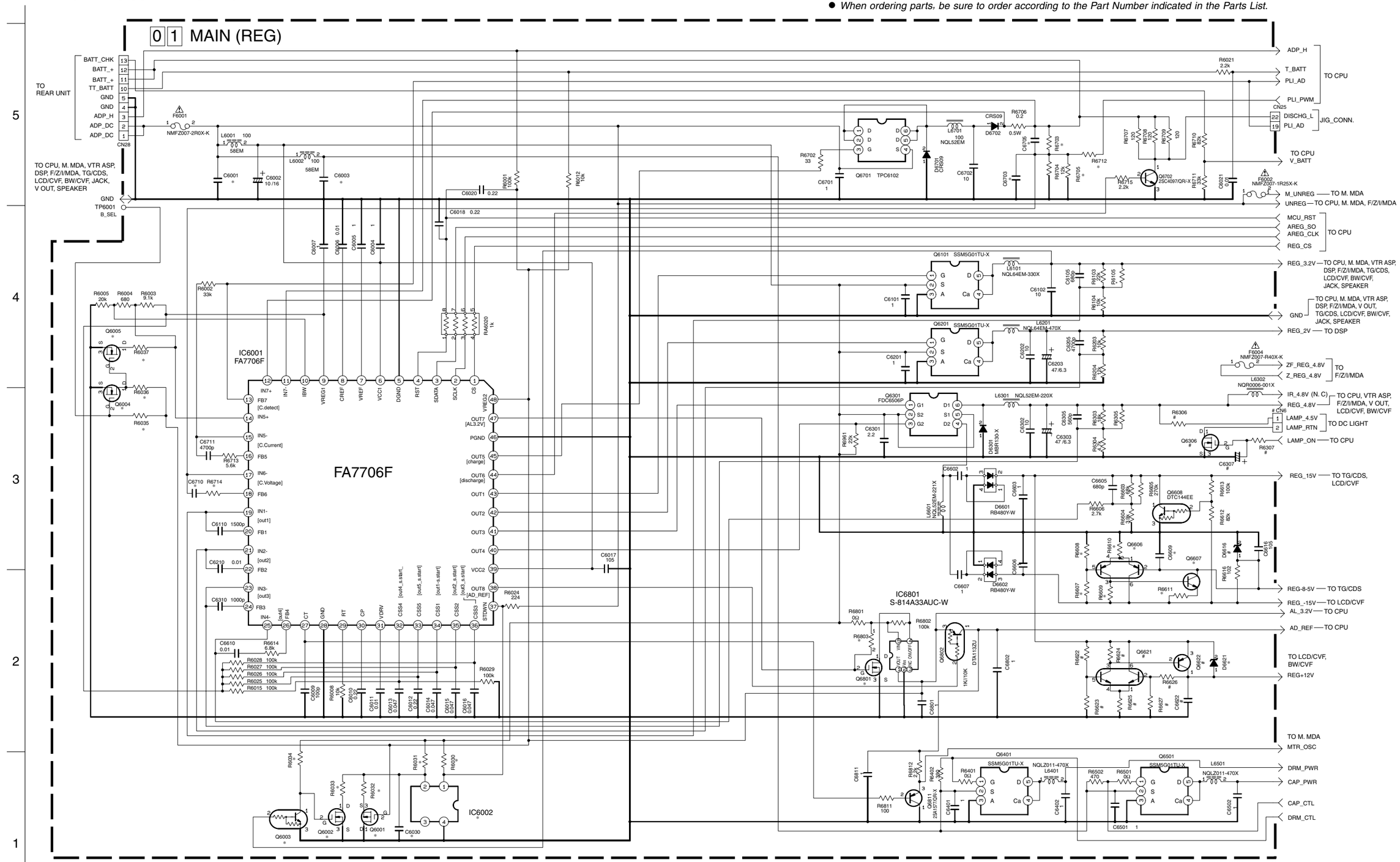


NOTES : 1. The parts with marked (*) is not used.
2. For TG/CDS waveforms, please refer to page 4-45.

y30152001a_rev0

4.9 REG SCHEMATIC DIAGRAM

NOTES :
- *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
- *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTE : The parts with marked (*) is not used.

: EXCHANGE PARTS LIST

	D6616
NTSC	UDZS8.2B-X
PAL	UDZS7.5B-X

		R6306	R6307	Q6306	C6307	CN6
Light	YES	0.47	100k	SSM3K02F	10µ/16	QGA1201C2-02X
Light	NO	*	*	*	*	*

	R6622	R6623	R6624	R6625	R6626	R6627	Q6621	Q6622	C6622
JVC WB VF ONLY MODEL	*	*	*	*	*	*	*	*	*
JVC WB VF and 2.5LCD MODEL	*	*	*	*	*	*	*	*	*
JVC OTHER MODEL	100k	47k	27k	8.2k	27k	18k	HN1C01FU	2SA1577	1µ

4.10 LCD/CVF SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

0 1 MAIN (LCD/CVF)

JIG_CONN.
CN25
VF_RPD
CVF_B
CVF_G
CVF_R

OPEN
CN11
VF_COM
CVF_G
CVF_R
CVF_B
REG_3.2V
GND
GND
HDCVF
VDCVF
HRP2
VF_RPD
SI3
BWYGAIN
TO DSP
TO CPU
TO DSP

TO REG
REG_4.8V
REG_-15V
GND
REG+12V
REG_15V
REG_3.2V

TO DSP
ROUT
GOUT
BOUT
TO CPU
VF_LCD
TO DSP
DAC_3.2V

OPEN_SW — TO CPU
GND — TO REG
LCD_CTL — TO CPU
REG_4.8V — TO REG
TO MONITOR CN7601
CN16
1 OPEN_SW
2 GND
3 GND
4 LCD_CTL
5 REG_4.8V
6 REG_4.8V
7 VSS
8 REG_15V
9 MREG_4.8
10 MON_R
11 REG+12V
12 MON_G
13 REG_3.2V
14 MON_B
15 HDCVF
16 VDCVF
17 HRP1
18 DSP_REST
19 PMIRROR
20 NC
21 NC
22 GND
23 GND
24 GND
25 REV_SW
REV_SW
PMIRROR — TO CPU
DSP_REST
HRP1
VDCVF — TO DSP
HDCVF

IC7005
IC7008
Q7001
Q7003
Q7005
Q7011 PUMX1-W
Q7013 PUMX1-W
Q7015 PUMX1-W

NOTE : The parts with marked (✻) is not used.

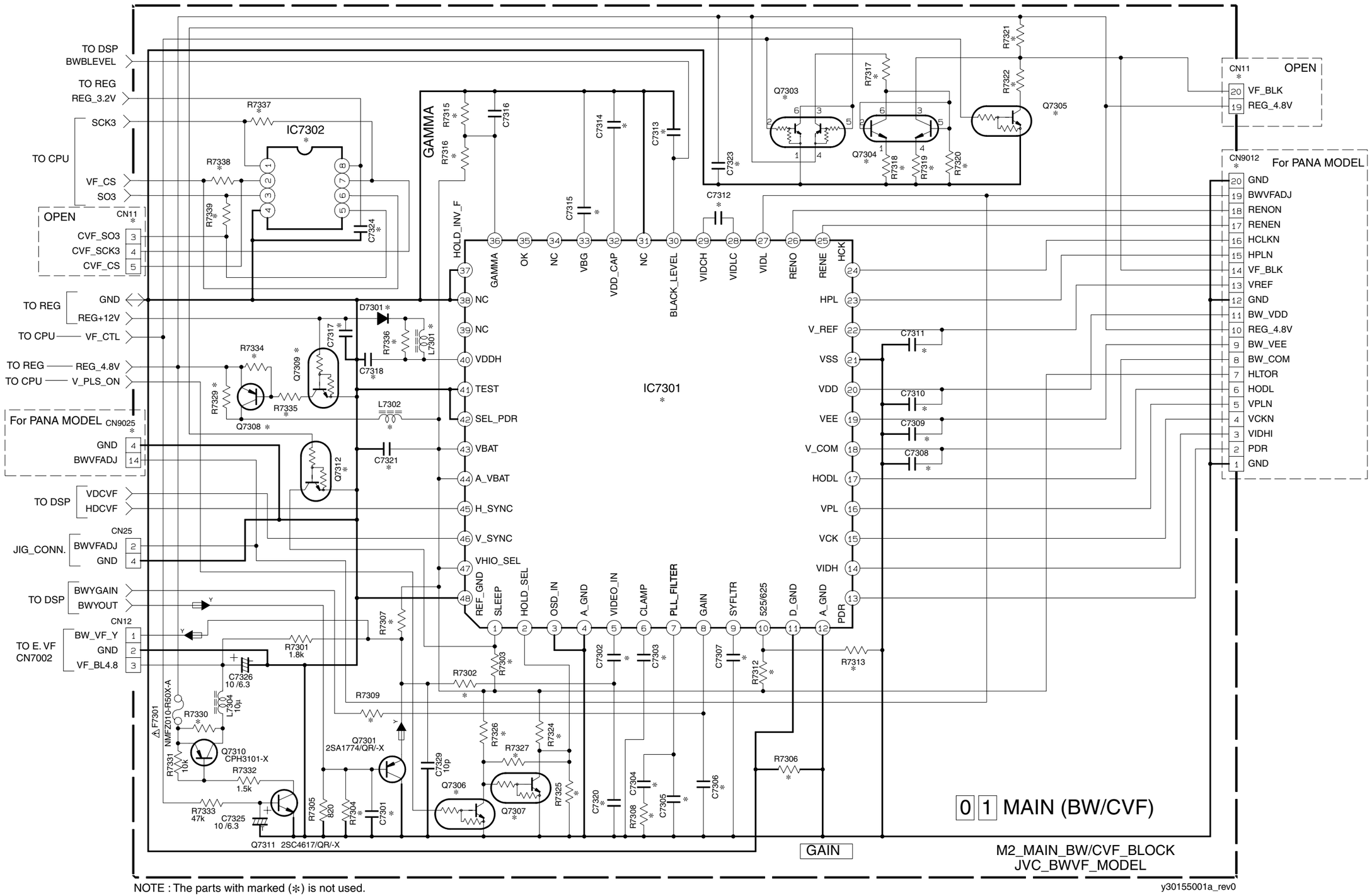
y10244001a_rev0

: EXCHANGE PARTS LIST

	JVC MODEL	PANA MODEL
CN25	QGB0506L1-30X	✻

4.11 BW/CVF SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

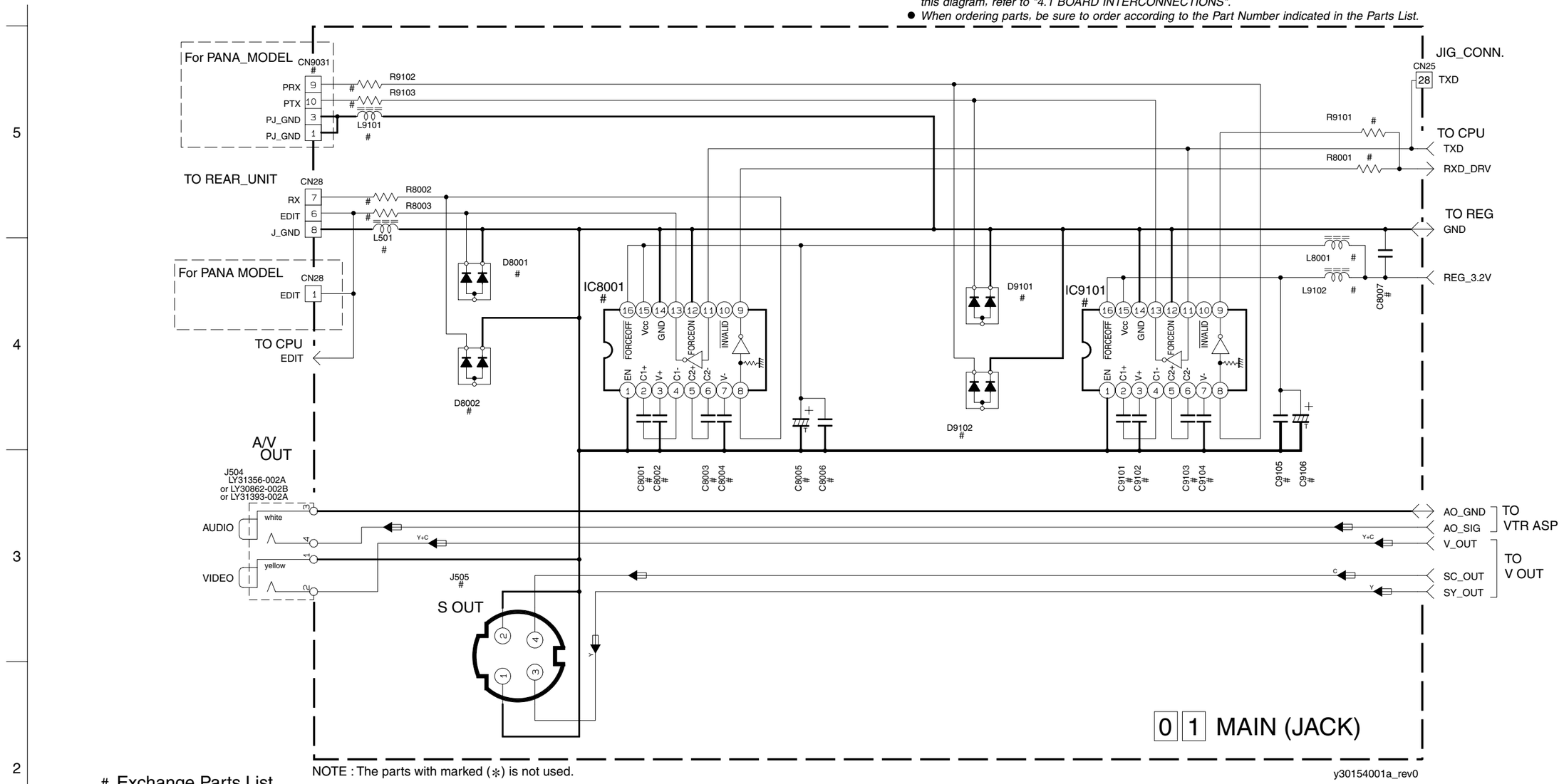


NOTE : The parts with marked (*) is not used.

y30155001a_rev0

4.12 JACK SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



NOTE : The parts with marked (✻) is not used.

y30154001a_rev0

Exchange Parts List

	JVC PC model	JVC NON PC model PANA model
IC8001	MAX3221CAE-X	✻
R8001	330	✻
R8002	0	✻
R8003	0	✻
C8001	0.1	✻
C8002	0.1	✻
C8003	0.1	✻
C8004	0.1	✻
C8005	10/6.3	✻
C8006	0.1	✻
C8007	✻	✻
D8001	EMZ6.8N-X	✻
D8002	EMZ6.8N-X	✻
L8001	22 µ	✻

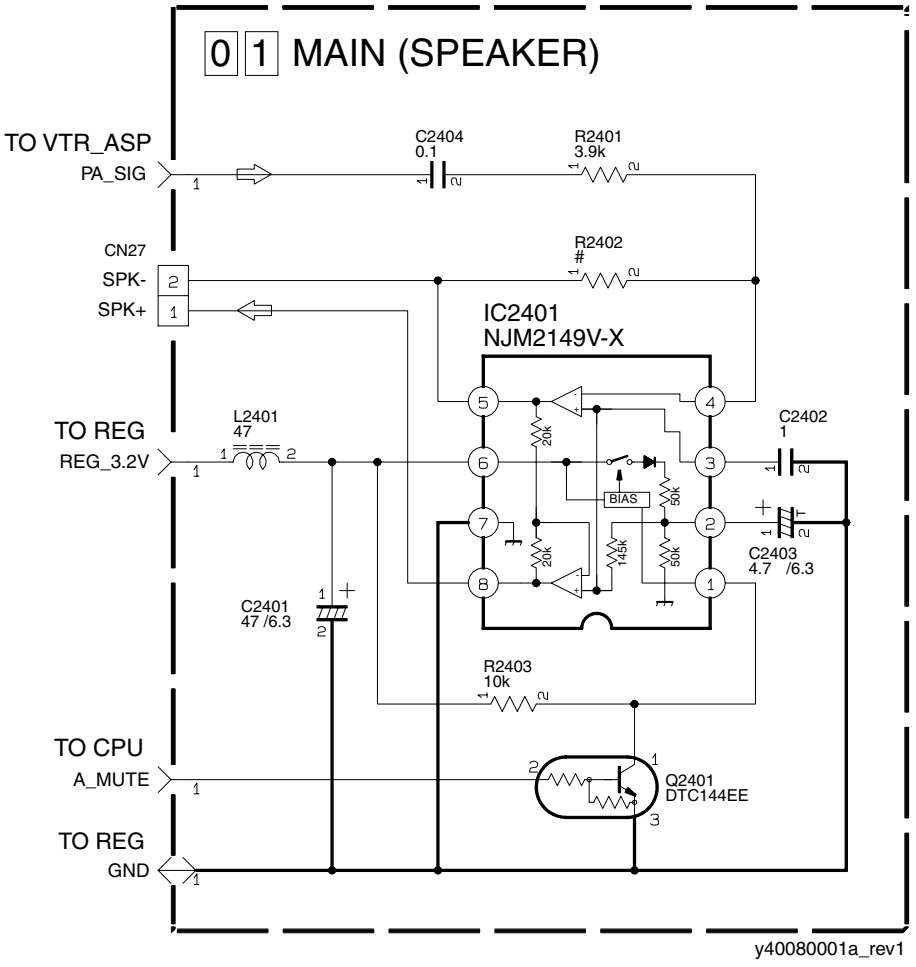
	PANA PC model	JVC model PANA NON PC model
IC9101	MAX3221CAE-X	✻
R9101	330	✻
R9102	0	✻
R9103	0	✻
C9101	0.1	✻
C9102	0.1	✻
C9103	0.1	✻
C9104	0.1	✻
C9105	10/6.3	✻
C9106	0.1	✻
D9101	EMZ6.8N-X	✻
D9102	EMZ6.8N-X	✻
L9102	22 µ	✻

	S model	NON S model
J505	QND0068-001 or QND0078-001 or QND0087-001	✻

	JVC model with EDIT/DIGITAL terminal	JVC model without EDIT/DIGITAL terminal	PANA model
L501	0Ω	✻	
L9101	✻	✻	0
CN9031	✻	✻	

4.13 SPEAKER SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



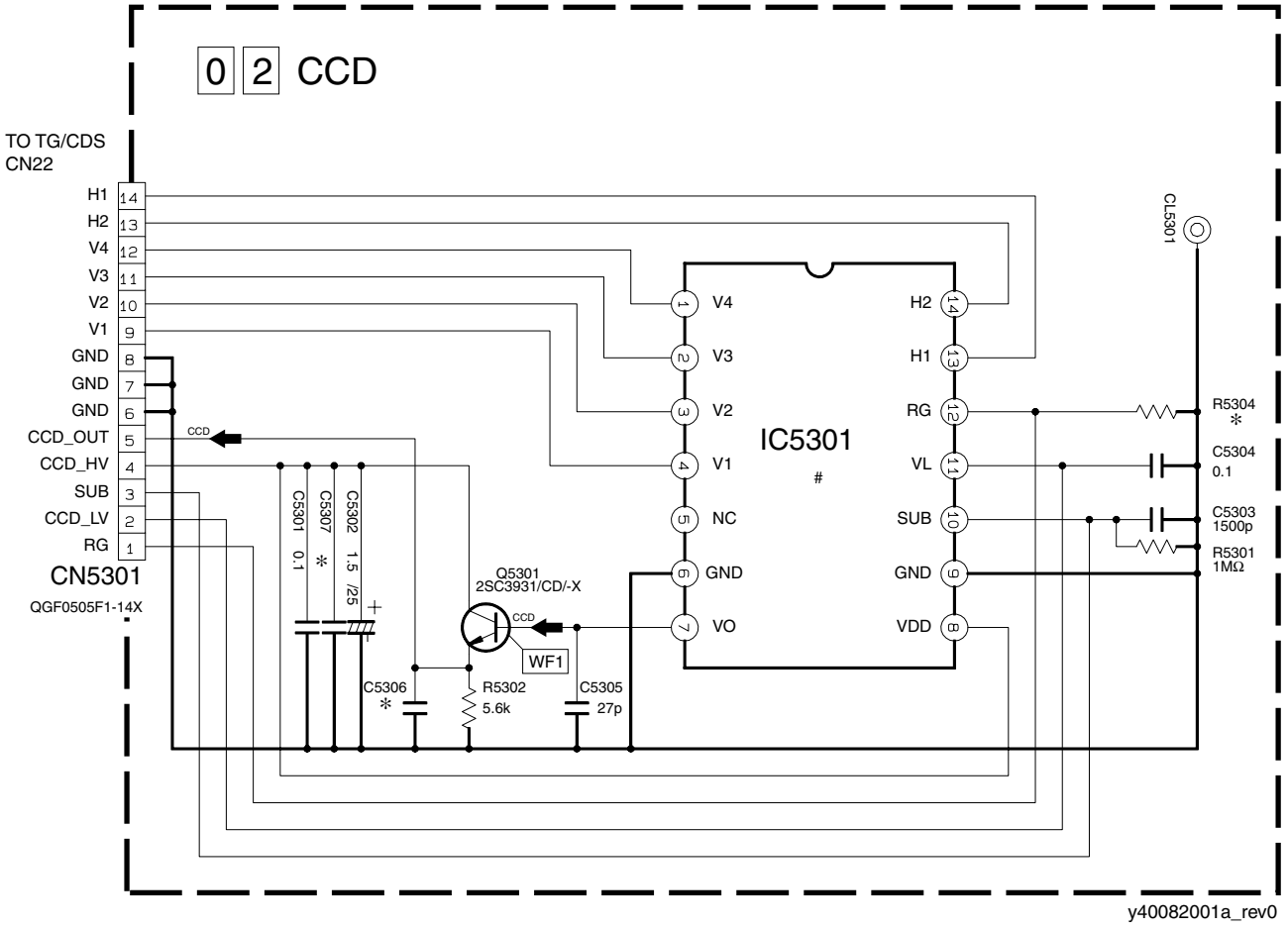
: EXCHANGE PARTS LIST

	JVC	PANA /RCA
R2402	3.3k	2.2k

4.14 CCD SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

● *IC5301 is incorporated in the CCD base assembly. When IC5301 needs replacement, replace the CCD base assembly in whole because it cannot be replaced alone.*



y40082001a_rev0

NOTES : 1. The parts with marked (✻) is not used.
2. For CCD waveform, please refer to page 4-45.

MODEL	IC5301	CCD_HV	CCD_LV
NTSC_L	MN39117FT	15V	-8V
PAL_L	ICX297AKA-L	15V	-7.5V

4.15 MONITOR SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

0 7 MONITOR

: EXCHANGE PARTS LIST

	R7618	R7619
NTSC	✻	NRSA63J-0R0X
PAL	NRSA63J-0R0X	✻

	IC7603	R7642	C7627	R7602	L7603	L7604	R7637	R7640	R7641	R7645	R7607
Type_2.5	SN74AHC1G04K-X	✻	NCB31EK-103X	NRVA63D-752X	✻	NQL38DK-220X	NRSA63J-223X	NRSA02J-182X	NRSA02J-331X	NRSA63J-682X	NRSA63J-822X
Type_3.0	✻	NRSA63J-0R0X	✻	NRVA63D-432X	NQL38DK-220X	✻	NRSA63J-682X	NRSA02J-122X	NRSA02J-821X	NRSA63J-123X	NRSA63J-153X
Type_3.5	✻	NRSA63J-0R0X	✻	NRVA63D-432X	NQL38DK-220X	✻	NRSA63J-682X	NRSA02J-122X	NRSA02J-821X	NRSA63J-123X	NRSA63J-153X

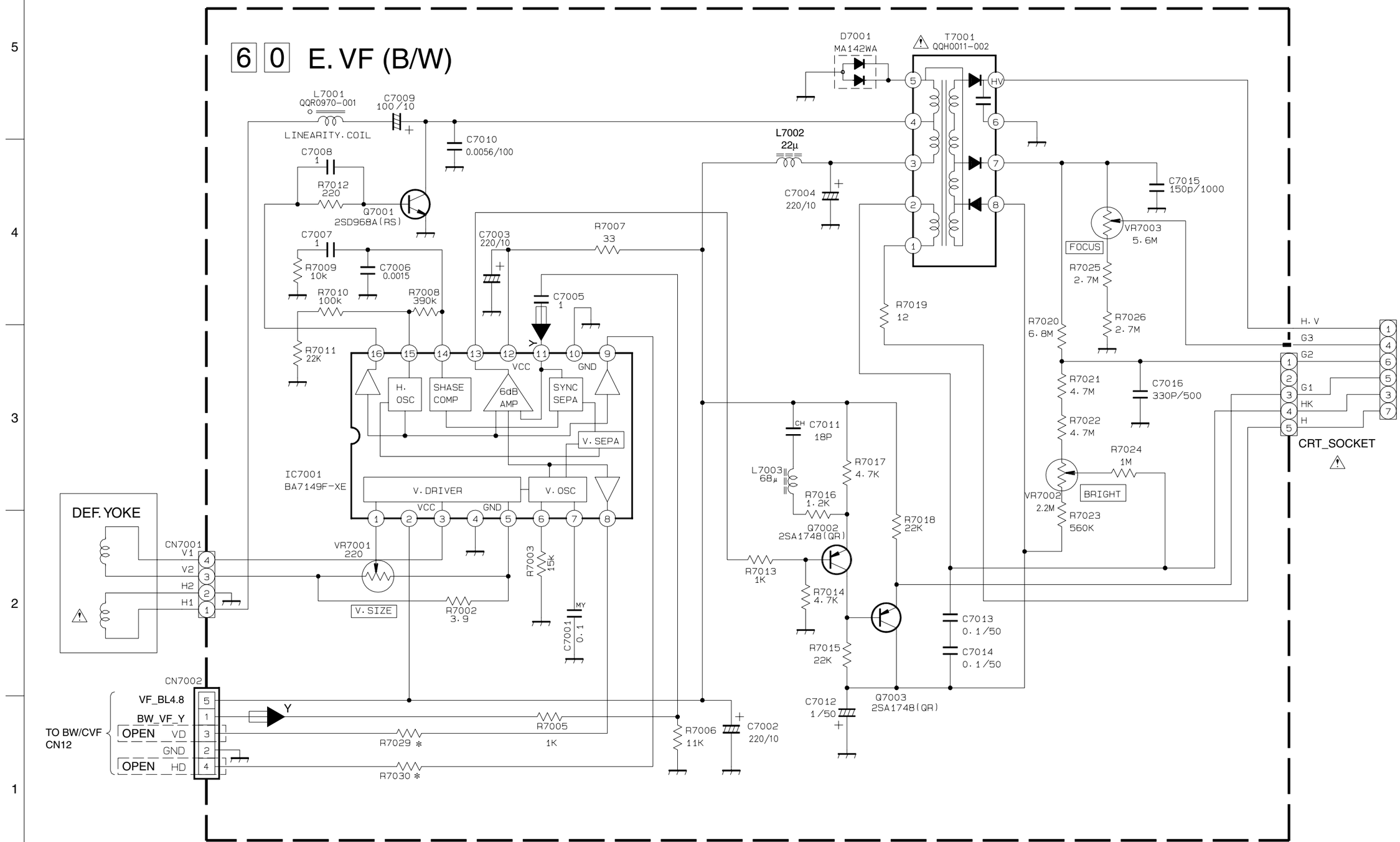
	C7623	R7643	R7644	C7630	R7647	R7648	Q7607	R7649	R7650	R7646	R7622
Type_2.5	NCB31EK-682X	✻	✻	✻	✻	NRSA63J-103X	DTC144EE-X	✻	NRSA63J-103X	NRSA63J-392X	✻
Type_3.0	✻	NRSA63J-123X	NRSA63J-123X	NCB31EK-103X	NRSA63J-0R0X	✻	✻	NRSA63J-333X	✻	NRSA63J-222X	✻
Type_3.5	✻	NRSA63J-123X	NRSA63J-123X	NCB31EK-103X	✻	NRSA63J-103X	DTC144EE-X	✻	NRSA63J-103X	NRSA63J-222X	NRSA63J-0R0X

NOTE : The parts with marked (✻) is not used.

y20160001a_rev0

4.16 E. VF SCHEMATIC DIAGRAM

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

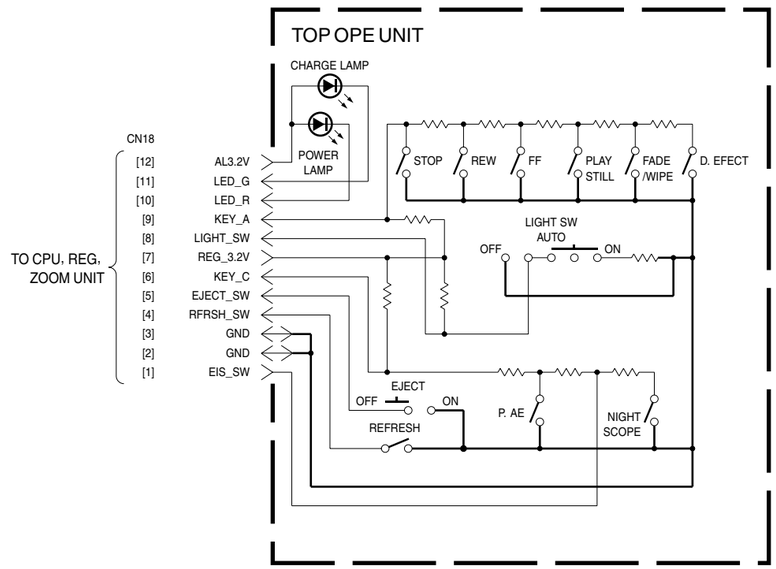


NOTE : The parts with marked (*) is not used.

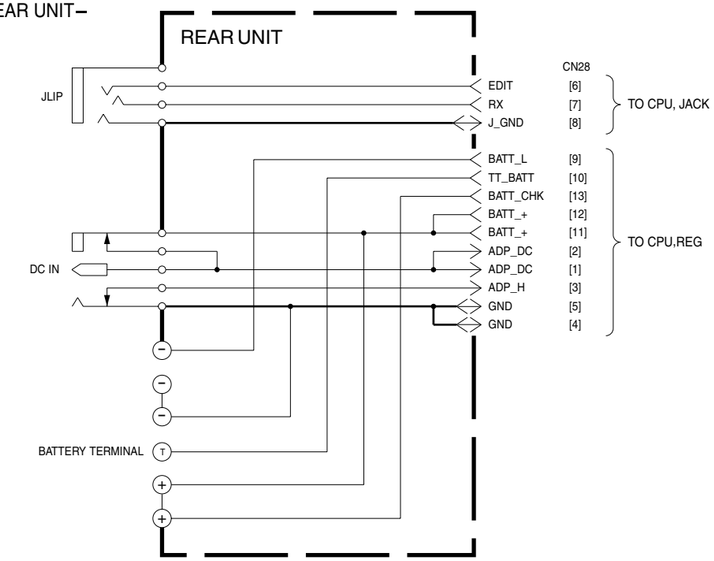
4.17 TOP OPE UNIT, ZOOM UNIT, REAR UNIT AND SENSOR SCHEMATIC DIAGRAMS

NOTES : ● *For the destination of each signal and further line connections that are cut off from this diagram, refer to "4.1 BOARD INTERCONNECTIONS".*
● *The schematic diagram is only for reference. Avoid replacing individual parts. Replace the entire unit only.*

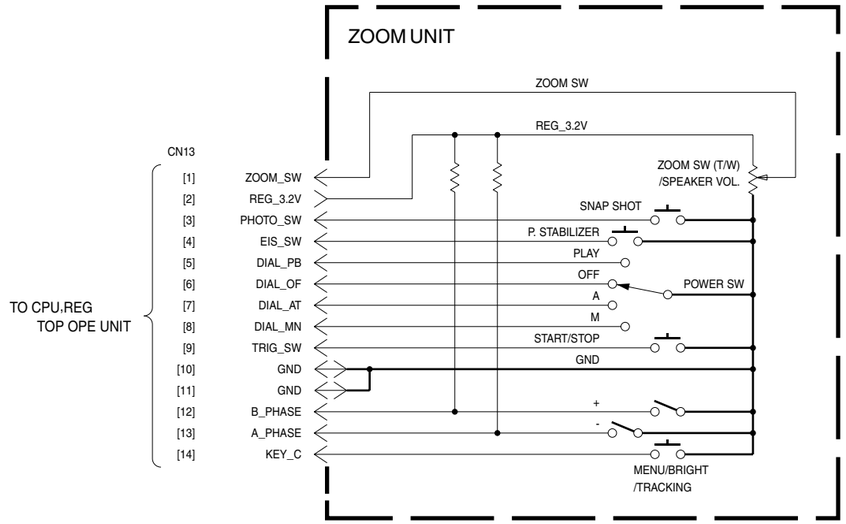
–TOP OPE UNIT–



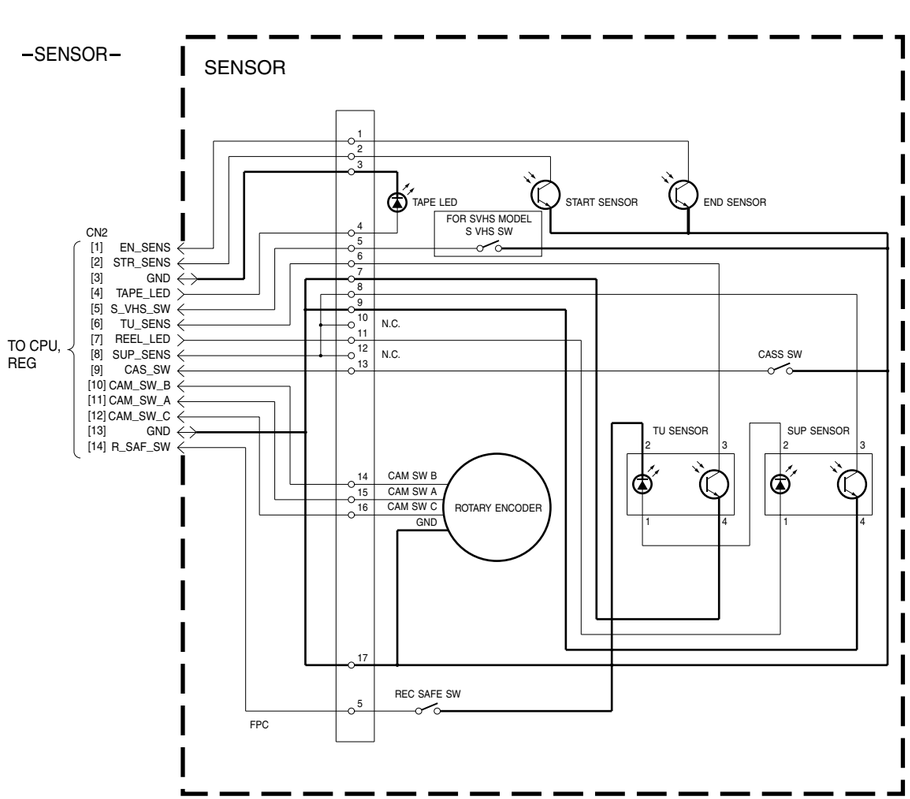
–REAR UNIT–



–ZOOM UNIT–



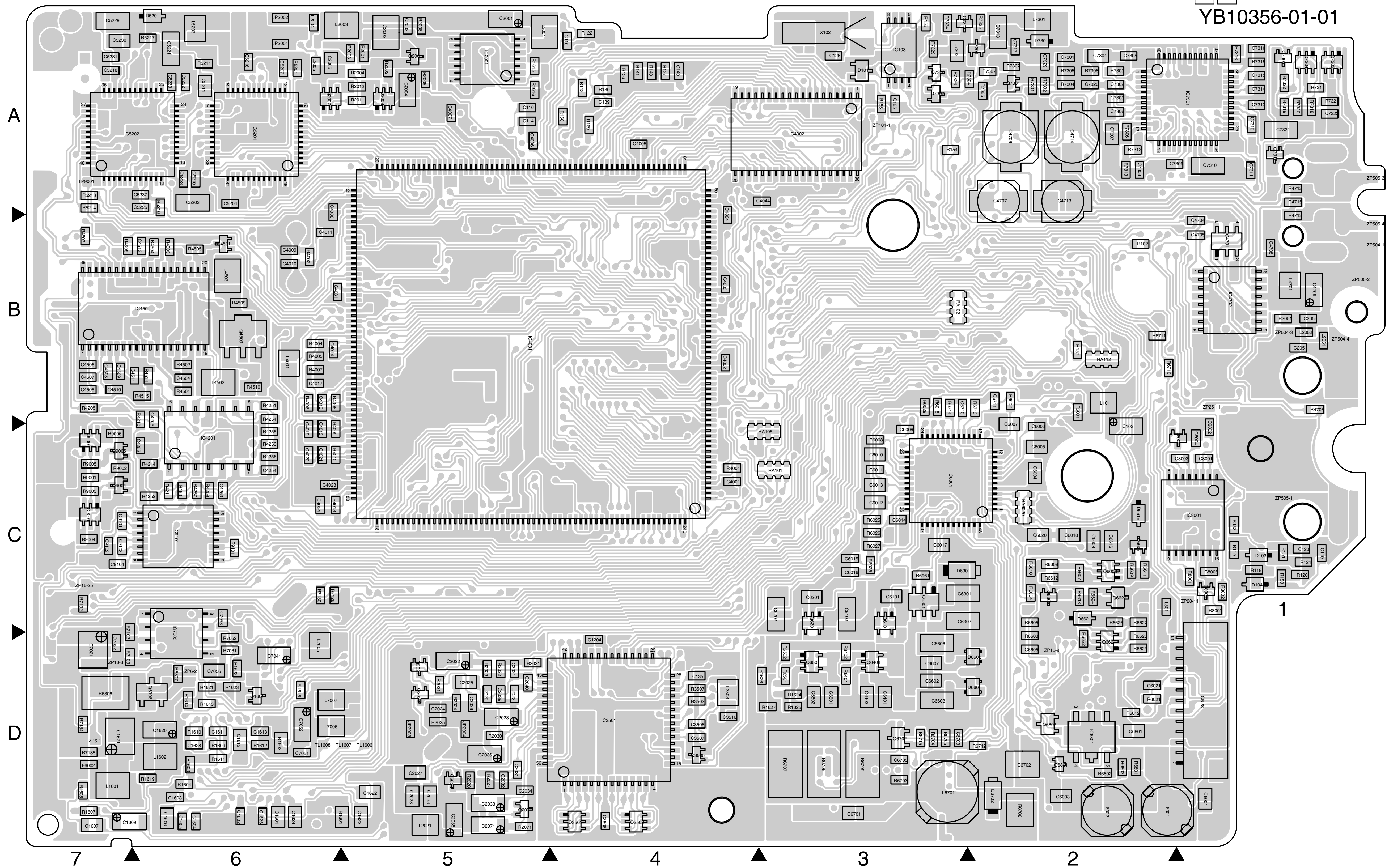
–SENSOR–



4.18 MAIN CIRCUIT BOARD

FOIL SIDE(B)

01 MAIN PWB
YB10356-01-01



COMPONENT PARTS LOCATION GUIDE <MAIN/YB10356-01-01> (1/2)

REF.NO.	LOCATION		
CAPACITOR			
C103	B	C	2C
C104	A	C	2B
C105	A	C	2C
C107	A	C	3A
C108	A	C	1B
C109	A	C	4A
C110	B	C	4A
C111	A	C	6A
C112	A	C	4C
C113	A	C	4A
C114	B	C	5A
C115	A	C	5C
C116	B	C	5A
C118	A	C	3B
C119	B	C	1C
C120	B	C	1C
C121	A	C	4A
C122	A	C	3A
C123	A	C	3B
C124	A	C	3B
C125	B	C	3A
C126	B	C	3A
C127	A	C	3B
C128	A	C	3B
C129	A	C	3B
C131	A	C	4C
C132	A	C	3C
C133	A	C	5B
C134	A	C	5C
C135	B	C	4D
C136	A	C	1C
C138	A	C	2B
C139	B	C	4A
C140	B	C	4A
C141	A	C	3B
C142	A	C	2B
C143	A	C	3A
C144	A	C	2B
C1201	A	C	4D
C1202	A	C	4D
C1204	B	C	4D
C1205	A	C	4D
C1206	A	C	4D
C1601	B	C	6D
C1602	B	C	6D
C1603	B	C	6D
C1604	B	C	6D
C1605	B	C	6D
C1606	B	C	6D
C1607	B	C	7D
C1608	A	C	6D
C1609	B	C	6D
C1610	A	C	7D
C1611	B	C	6D
C1612	B	C	6D
C1613	B	C	6D
C1614	A	C	6D
C1615	A	C	6D
C1616	A	C	6C
C1617	A	C	6D
C1618	A	C	6D
C1619	A	C	5D
C1620	B	C	6D
C1621	B	C	7D
C1622	B	C	5D
C1623	B	C	5D
C1624	B	C	6D
C1625	A	C	6D
C1626	B	C	6D
C1627	A	C	3B
C1628	B	C	6D
C1629	A	C	5A
C1630	A	C	5A
C2001	B	C	5A
C2002	B	C	5A
C2003	B	C	5A
C2004	B	C	5A
C2005	B	C	6A
C2021	B	C	5D
C2022	B	C	5D
C2023	B	C	5D
C2024	B	C	5D
C2025	B	C	5D
C2026	B	C	5D
C2027	B	C	5D
C2028	B	C	5D
C2029	A	C	5D
C2031	B	C	5D
C2032	B	C	5D
C2033	B	C	5D
C2034	B	C	5D
C2035	B	C	5D
C2036	B	C	5D
C2038	B	C	5D
C2039	B	C	5D
C2040	B	C	5D
C2051	B	C	1B
C2052	B	C	1B
C2071	B	C	5D
C2072	A	C	5D
C2401	A	C	5B
C2402	A	C	5B
C2403	A	C	5B
C2404	A	C	5B
C3506	B	C	4D
C3507	B	C	4D
C3508	B	C	4D
C3509	A	C	6A
C3510	A	C	4D
C3511	A	C	4D
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C4008	B	C	6A
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C4012	A	C	5B
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C4015	A	C	5B
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C4018	A	C	5B
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C4023	B	C	6C
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C4025	A	C	5B
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C4027	A	C	5C
C4028	A	C	5C
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C6703	B	C	3D
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C6710	B	C	3B
C6711	B	C	2B
C6801	B	C	2D
C6802	A	C	2D
C6811	A	C	2D
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C7022	B	C	7D
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C7066	A	C	5C
C7067	A	C	6C
C7068	A	C	6C
C7069	A	C	6C
C7301	B	C	2A
C7302	B	C	2A
C7303	B	C	2A
C7304	B	C	2A
C7305	B	C	2A
C7306	B	C	2A
C7307	B	C	2A
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C9102	B	C	7C
C9103	B	C	7C
C9104	B	C	7C
C9105	A	C	6C
C9106	A	C	6C
CONNECTOR			
CN1	A	C	5D
CN2	A	C	2D
CN3	A	C	5A
CN4	A	C	6D
CN5	A	C	4D
CN6	A	C	6D
CN7	A	C	6A
CN8	A	C	5D
CN11	A	C	2A
CN12	A	C	2A
CN13	A	C	4A
CN15	A	C	7B
CN16	A	C	6D
CN18	A	C	5A
CN22	A	C	7A
CN25	A	C	2D
CN27	A	C	5C
CN28	B	C	1D
CN9012	A	C	2A
CN9013	A	C	4A
CN9018	A	C	5B
CN9025	A	C	3D
CN9031	A	C	6C
DIODE			
D101	B	C	3A
D102	A	C	1B
D103	B	C	1C
D104	B	C	1C
D4001	A	C	5B
D5201	B	C	6A
D6301	B	C	3C
D6601	B	C	2D
D6602	B	C	2D
D6616	B	C	2C
D6621	B	C	2C
D6701	A	C	3D
D6702	B	C	2D
D7301	B	C	2A
D8001	B	C	1C
D8002	B	C	1C
D9101	A	C	6C
D9102	A	C	6C
FUSE			
F6001	A	C	2D
F6002	B	C	7D
F6004	A	C	6C
F7301	A	C	3A
IC			
IC101	A	C	4B
IC102	A	C	3A
IC103	B	C	3A
IC104	A	C	2B
IC105	A	C	1C
IC1601	A	C	6D
IC1602	A	C	4D
IC1801	A	D	7A
IC2001	B	C	5A
IC2401	A	C	5B
IC3501	B	C	4D
IC4001	B	C	5B
IC4002	B	C	3A
IC4003	A	C	5C
IC4201	B	C	6C
IC4202	A	C	6B
IC4501	B	C	6B
IC4701	B	C	1B
IC4702	B	C	1B
IC5201	B	C	6A
IC5202	B	C	6A
IC5301	A	D	1D
IC6001	B	C	3C
IC6002	A	C	2C
IC6801	B	C	2D
IC7005	B	C	6D
IC7008	A	C	6C
IC7301	B	C	1A
IC7302	A	C	1A
IC8001	B	C	1C
IC9101	B	C	6C
COIL			
L101	B	C	2B
L501	B	C	2C
L1601	B	C	7D
L1602	B	C	6D
L2001	B	C	5A
L2003	B	C	5A
L2004	B	C	6A
L2005	B	C	6A
L2021	B	C	5D
L2022	B	C	5D
L2023	B	C	5D
L2051	B	C	1B
L2052	B	C	1B
L2071	A	C	5D
L2072	A	C	5D
L2401	A	C	5B
L3502	A	C	4D
L3503	B	C	4D
L4001	B	C	6B
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L4501	A	C	7B
L4502	B	C	6B
L4503	B	C	6B
L4701	B	C	1B
L5201	A	C	6A
L5202	A	C	7A
L5203	B	C	6A
L6001	B	C	2D
L6002	B	C	2D
L6101	A	C	3C
L6201	A	C	3C
L6301	A	C	3C
L6302	A	C	6C
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L6501	A	C	3D
L6601	A	C	3D
L6701	B	C	3D
L7005	B	C	6D
L7006	B	C	6D
L7007	B	C	6D
L7301	B	C	2A
L7302	B	C	3A
L7304	A	C	2A
L8001	A	C	2C
L9101	A	C	6C
L9102	A	C	6C
TRANSISTOR			
Q101	A	C	1B
Q102	A	C	1B
Q103	A	C	4A
Q104	A	C	1C
Q105	A	C	1D
Q106	A	C	2D
Q107	A	C	2D
Q108	A	C	4A
Q109	A	C	4A
Q112	A	C	3B
Q113	A	C	5B
Q114	A	C	5B
Q1601	B	C	6D
Q2001	B	C	5A
Q2007	B	C	6A
Q2008	B	C	5A
Q2021	B	C	5D
Q2022	B	C	5D
Q2023	B	C	5D
Q2071	B	C	5D
Q2401	A	C	5B
Q3501	B	C	4D
Q3502	B	C	4D
Q3505	B	C	4D
Q3901	A	C	4D
Q4001	A	C	5B
Q4201	A	C	6B
Q4202	A	C	6A
Q4251	A	D	7A
Q4501	B	C	6B
Q4502	A	C	6B
Q4503	B	C	6B
Q4701	A	C	6B
Q4702	A	C	6C
Q6001	A	C	2C
Q6002	A	C	2C
Q6003	A	C	2C
Q6004	A	C	2C
Q6005	A	C	2C
Q6101	B	C	3C
Q6201	B	C	3C
Q6301	B	C	3C
Q6306	B	C	6D
Q6401	B	C	3D
Q6501	B	C	3D
Q6606	B	C	2C
Q6607	B	C	2C
Q6608	B	C	2C
Q6621	B	C	2D
Q6622	B	C	2C
Q6701	A	C	3D
Q6702	B	C	3D
Q6801	B	C	2D
Q6802	B	C	2D
Q6811	A	C	2D
Q7001	A	C	5D
Q7003	A	C	5D
Q7005	A	C	5D
Q7011	A	C	5C

COMPONENT PARTS LOCATION GUIDE <MAIN/YB10356-01-01> (2/2)

REF.NO.	LOCATION		
Q7013	A	C	5C
Q7015	A	C	5C
Q7301	B	C	2A
Q7303	B	C	1A
Q7304	B	C	1A
Q7305	B	C	1A
Q7306	B	C	3A
Q7307	B	C	3A
Q7308	B	C	2A
Q7309	B	C	2A
Q7310	A	C	3A
Q7311	A	C	3A
Q7312	B	C	1A
Q9001	B	C	7C
Q9002	B	C	7C
Q9004	B	C	7C
Q9005	B	C	7C
Q9201	A	C	3A
Q9202	A	C	3A
Q9203	A	C	3A
Q9204	A	C	3A
RESISTOR			
R101	A	C	2B
R102	B	C	2B
R103	A	C	3C
R104	A	C	1B
R105	A	C	1B
R106	A	C	1B
R107	A	C	1B
R108	A	C	1B
R109	A	C	1B
R110	A	C	4A
R111	A	C	4A
R112	B	C	4A
R113	A	C	1D
R114	A	C	1D
R115	A	C	1D
R116	A	C	1D
R117	A	C	1D
R118	B	C	1C
R119	B	C	1C
R120	B	C	1C
R121	B	C	1C
R122	B	C	4A
R125	A	C	6C
R126	A	C	6C
R127	B	C	4A
R128	A	C	1C
R129	A	C	1C
R130	B	C	4A
R131	A	C	2B
R136	B	C	4A
R138	A	C	5B
R139	A	C	5A
R140	B	C	4A
R141	B	C	4A
R142	A	C	2C
R143	A	C	3B
R144	A	C	3B
R145	A	C	2B
R146	A	C	3B
R147	A	C	3B
R148	A	C	3B
R149	A	C	3B
R150	B	C	1C
R151	B	C	1C
R152	A	C	2B
R153	B	C	1C
R154	B	C	3A
R155	B	C	3A
R156	B	C	3A
R157	B	C	2B
R158	B	C	4A
R159	A	C	5B
R160	A	C	6B
R162	A	C	2A

REF.NO.	LOCATION		
R163	B	C	6C
R164	A	C	4A
R165	A	C	5A
R166	A	C	3B
R167	A	C	6B
R168	A	C	6B
R169	B	C	4A
R170	A	C	6B
R171	A	C	2B
R172	A	C	3B
R176	A	C	3B
R177	A	C	4A
R178	A	C	5A
R179	A	C	5B
R180	A	C	5B
R181	A	C	1D
R182	A	C	1C
R183	A	C	1C
R184	A	C	1C
R185	A	C	2D
R188	A	C	4A
R189	A	C	3B
R190	A	C	2B
R1601	B	C	5D
R1602	B	C	6D
R1603	B	C	6D
R1604	B	C	6D
R1605	B	C	7D
R1606	A	C	6D
R1607	B	C	7D
R1608	A	C	6D
R1609	B	C	6D
R1610	B	C	6D
R1611	B	C	6D
R1612	B	C	6D
R1613	B	C	6D
R1614	B	C	6D
R1615	B	C	5A
R1616	B	C	5A
R1617	A	C	2B
R1618	B	C	6D
R1619	B	C	6D
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R1621	B	C	6D
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R1623	B	C	6D
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R1626	B	C	3D
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R1628	A	C	4D
R2001	B	C	5A
R2002	B	C	5A
R2003	B	C	5A
R2004	B	C	5A
R2005	B	C	5A
R2006	B	C	5A
R2011	B	C	5A
R2012	B	C	5A
R2021	B	C	5D
R2022	B	C	5D
R2023	B	C	5D
R2024	B	C	5D
R2025	B	C	5D
R2027	B	C	5D
R2028	B	C	5D
R2030	B	C	5D
R2031	B	C	5D
R2051	B	C	1B
R2071	B	C	5D
R2072	A	C	5D
R2401	A	C	5B
R2402	A	C	5B
R2403	A	C	5B
R3501	A	C	6A
R3502	B	C	4D
R3506	A	C	4C

REF.NO.	LOCATION		
R3507	B	C	4D
R3508	A	C	4D
R3901	A	C	4D
R3902	A	C	4D
R3903	A	C	4D
R4001	B	C	4C
R4002	B	C	6B
R4003	A	C	6B
R4004	B	C	6B
R4005	B	C	6B
R4006	B	C	6B
R4007	B	C	6B
R4008	B	C	6B
R4009	B	C	6C
R4010	B	C	6C
R4013	B	C	6C
R4014	A	C	6B
R4015	A	C	5C
R4016	A	C	5C
R4017	A	C	5C
R4018	A	C	5C
R4019	A	C	5C
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R4021	A	C	5C
R4022	A	C	4C
R4023	A	C	4C
R4024	A	C	4C
R4025	A	C	4C
R4026	A	C	4C
R4027	A	C	4C
R4028	A	C	4C
R4029	A	C	4C
R4030	A	C	4C
R4031	A	C	4C
R4032	A	C	4C
R4033	A	C	4C
R4034	A	C	3B
R4035	A	C	3B
R4036	A	C	4C
R4037	A	C	4C
R4201	A	C	7B
R4202	A	C	6B
R4203	A	C	6B
R4204	A	C	6B
R4205	B	C	7B
R4206	A	C	6B
R4207	A	C	6B
R4208	A	C	6B
R4209	A	C	6B
R4210	B	C	6B
R4211	B	C	6C
R4214	B	C	6C
R4215	A	C	6B
R4216	A	C	6B
R4217	A	C	6B
R4218	A	C	6B
R4219	A	C	6B
R4220	A	C	6A
R4221	A	C	6B
R4222	A	C	7B
R4223	A	C	7B
R4224	A	C	7B
R4225	A	C	6A
R4251	B	C	6B
R4252	B	C	6C
R4253	B	C	6C
R4254	B	C	6B
R4255	B	C	6C
R4256	B	C	6C
R4257	B	C	6C
R4258	A	C	6C
R4259	B	C	6C
R4262	A	C	6C
R4501	B	C	6B
R4502	B	C	6B
R4503	B	C	6B
R4504	B	C	6B

REF.NO.	LOCATION		
R4505	B	C	6B
R4507	B	C	7B
R4508	B	C	6B
R4509	B	C	6B
R4510	B	C	6B
R4511	A	C	6B
R4512	A	C	6C
R4513	A	C	7B
R4514	B	C	6B
R4515	B	C	6B
R4516	A	C	6C
R4701	A	C	5B
R4702	A	C	6B
R4703	A	C	5B
R4704	A	C	5B
R4706	B	C	1B
R4707	A	C	6C
R4708	A	C	6C
R4709	A	C	6C
R4710	A	C	5C
R4712	B	C	1A
R4713	B	C	1B
R5201	B	C	6A
R5202	A	C	6A
R5211	B	C	6A
R5213	B	C	7A
R5214	B	C	7A
R5215	A	C	6A
R5216	B	C	6A
R5217	B	C	6A
R5301	A	C	?D
R5302	A	C	1D
R5304	A	C	?D
R6001	B	C	2B
R6002	B	C	2B
R6003	A	C	2C
R6004	A	C	2C
R6005	A	C	2C
R6008	B	C	3C
R6012	B	C	2D
R6015	B	C	3B
R6021	B	C	2D
R6024	A	C	2D
R6025	B	C	3C
R6026	B	C	3C
R6027	B	C	3C
R6028	B	C	3C
R6029	B	C	3B
R6030	A	C	2C
R6031	A	C	2C
R6032	A	C	2D
R6033	A	C	2C
R6034	A	C	2C
R6035	A	C	2C
R6036	A	C	2C
R6037	A	C	2C
R6103	A	C	3C
R6104	A	C	3C
R6105	A	C	3C
R6203	A	C	3C
R6204	A	C	3C
R6303	A	C	3C
R6304	A	C	3C
R6305	A	C	3C
R6306	B	C	7D
R6307	B	C	6D
R6401	B	C	3D
R6402	B	C	3D
R6501	B	C	3D
R6502	B	C	3D
R6603	B	C	2D
R6604	B	C	2C
R6605	B	C	2C
R6606	A	C	3C
R6607	B	C	2C
R6608	B	C	2C
R6609	B	C	2C

REF.NO.	LOCATION		
R6610	B	C	2C
R6611	B	C	2C
R6612	B	C	2C
R6613	B	C	2C
R6614	A	C	3C
R6616	A	C	2C
R6622	B	C	2D
R6623	B	C	2D
R6624	B	C	2C
R6625	B	C	2D
R6626	B	C	2C
R6627	B	C	2C
R6702	A	C	3D
R6703	B	C	3D
R6704	B	C	3D
R6705	B	C	3D
R6706	B	C	2D
R6707	B	C	3D
R6708	B	C	3D
R6709	B	C	3D
R6710	B	C	2B
R6711	B	C	2B
R6712	B	C	2D
R6713	B	C	2B
R6714	B	C	3B
R6715	B	C	3D
R6801	B	C	2D
R6802	B	C	2D
R6803	B	C	2D
R6811	A	C	2D
R6812	A	C	2D
R6961	B	C	3C
R7061	B	C	6D
R7062	B	C	6D
R7077	A	C	6C
R7083	A	C	6C
R7085	A	C	5D
R7086	A	C	5D
R7088	A	C	5D
R7090	A	C	5D
R7091	A	C	5D
R7093	A	C	5D
R7095	A	C	5D
R7096	A	C	5D
R7098	A	C	5D
R7099	A	C	5D
R7100	A	C	5D
R7101	A	C	5D
R7102	B	C	6C
R7103	B	C	6D
R7110	A	C	6C
R7112	A	C	5C
R7114	A	C	5D
R7116	A	C	5C
R7118	A	C	5D
R7120	A	C	5C
R7122	A	C	5D
R7123	A	C	6C
R7124	A	C	6C
R7127	A	C	5C
R7128	B	C	6C
R7129	A	C	5C
R7130	B	C	6C
R7131	A	C	5C
R7132	B	C	7C
R7134	B	C	7D
R7135	B	C	7D
R7141	A	C	6C
R7301	B	C	2A
R7302	B	C	2A
R7303	B	C	2A
R7304	B	C	2A
R7305	B	C	2A
R7306	B	C	2A
R7307	B	C	2A
R7308	B	C	2A
R7309	A	C	2A

REF.NO.	LOCATION		
R7312	B	C	2A
R7313	B	C	2A
R7315	B	C	1A
R7316	B	C	1A
R7317	B	C	1A
R7318	B	C	1A
R7319	B	C	1A
R7320	B	C	1A
R7321	B	C	1A
R7322	B	C	1A
R7324	B	C	2A
R7325	B	C	2A
R7326	B	C	3A
R7327	B	C	2A
R7329	B	C	3A
R7330	A	C	3A
R7331	A	C	3A
R7332	A	C	3A
R7333	A	C	2A
R7334	B	C	3A
R7335	B	C	2A
R7336	A	C	2A
R7337	A	C	2A
R7338	A	C	2A
R7339	A	C	2A
R8001	B	C	1C
R8002	B	C	1C
R8003	B	C	1C
R9001	B	C	7C
R9002	B	C	7C
R9003	B	C	7C
R9004	B	C	7C
R9005	B	C	7C
R9006	B	C	7C
R9101	B	C	6C
R9102	A	C	6C
R9103	A	C	6C
R9201	A	C	3A
R9202	A	C	3A
R9203	A	C	3A
R9204	A	C	3A
R9205	A	C	3A
R9206	A	C	3A
R9207	A	C	4A
R9208	A	C	3A
R9209	A	C	3A
RA101	B	C	3C
RA102	B	C	3B
RA103	A	C	2B
RA104	A	C	2B
RA105	B	C	3C
RA106	A	C	4A
RA107	A	C	2A
RA108	A	C	3A
RA109	A	C	3A
RA110	A	C	2A
RA111	A	C	2B
RA112	B	C	2B
RA6020	B	C	2C
TEST POINT			
TP101	A	C	3B
TP102	A	C	3B
TP6001	A	C	2C
TP9001	B	C	7A
OTHER			
J101	A	D	5D
J504	A	D	1B
J505	A	D	1A
JP2001	B	C	6A
JP2002	B	C	6A
JP2003	B	C	5D
JP2004	B	C	5D
JP3501	A	C	4D
TL1601	A	C	6D
TL1602	A	C	7D
TL1603	A	C	7D

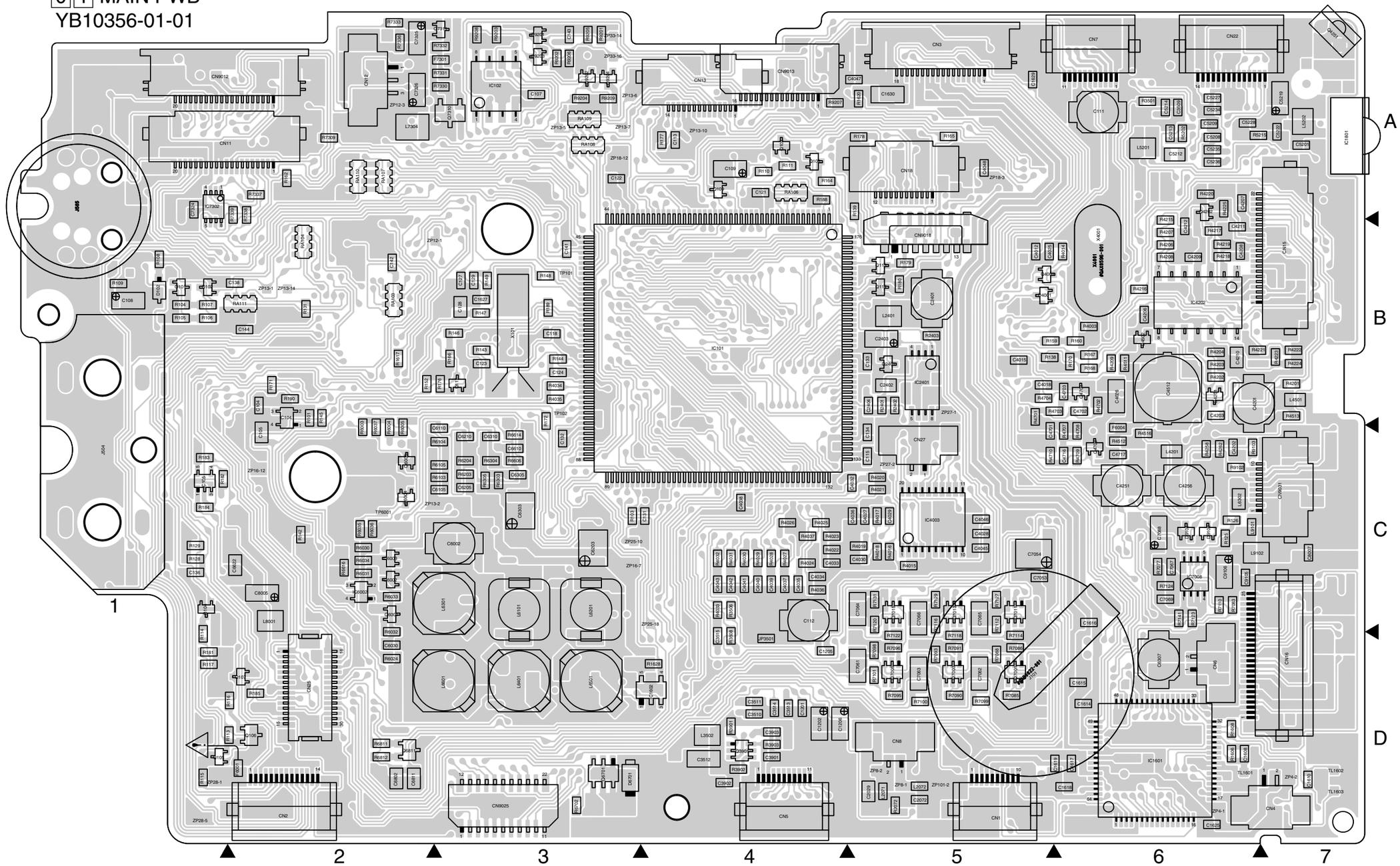
REF.NO.	LOCATION		
TL1606	B	C	5D
TL1607	B	C	5D
TL1608	B	C	6D
TM2	A	C	?A
TM5	A	C	7A
TM6	A	C	7A
X101	A	C	3B
X102	B	C	3A
X4001	A	D	6B
ZP4-1	A	C	6D
ZP4-2	A	C	7D
ZP6-1	B	C	7D
ZP6-2	B	C	6D
ZP8-1	A	C	5D
ZP8-2	A	C	5D
ZP12-1	A	C	2B
ZP12-3	A	C	2A
ZP13-1	A	C	2B
ZP13-2	A	C	2C
ZP13-5	A	C	3A
ZP13-6	A	C	3A
ZP13-7	A	C	3A
ZP16-3	B	C	7D
ZP16-7	A	C	3C
ZP16-9	B	C	2D
ZP18-3	A	C	5A
ZP27-1	A	C	5B
ZP27-2	A	C	5C
ZP28-1	A	C	1D
ZP28-5	A	C	1D
ZP101-1	B	C	3A
ZP101-2	A	C	5D
ZP13-10	A	C	4A
ZP13-14	A	C	2B
ZP16-12	A	C	2C
ZP16-25	B	C	7C
ZP18-12	A	C	3A
ZP25-10	A	C	3C
ZP25-11	B	C	1B
ZP25-18	A	C	4C
ZP28-11	B	C	1C
ZP33-14	A	C	3A
ZP33-16	A	C	3A
ZP504-1	B	C	1B
ZP504-3	B	C	1B
ZP504-4	B	C	1B
ZP505-1	B	C	1C
ZP505-2	B	C	1B
ZP505-3	B	C	1A
ZP505-4	B	C	1B

• CAUTION:
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD ,REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).

• ATTENTION:
POUR UNE PROTECTION PERMANENTE CONTRE LES RISQUE D'INCENDE, REMPLACER LES FUSIBLES PAR UN AUTRE DE MEME TYPE ET DE MEME TENSION.

0 1 MAIN PWB
YB10356-01-01

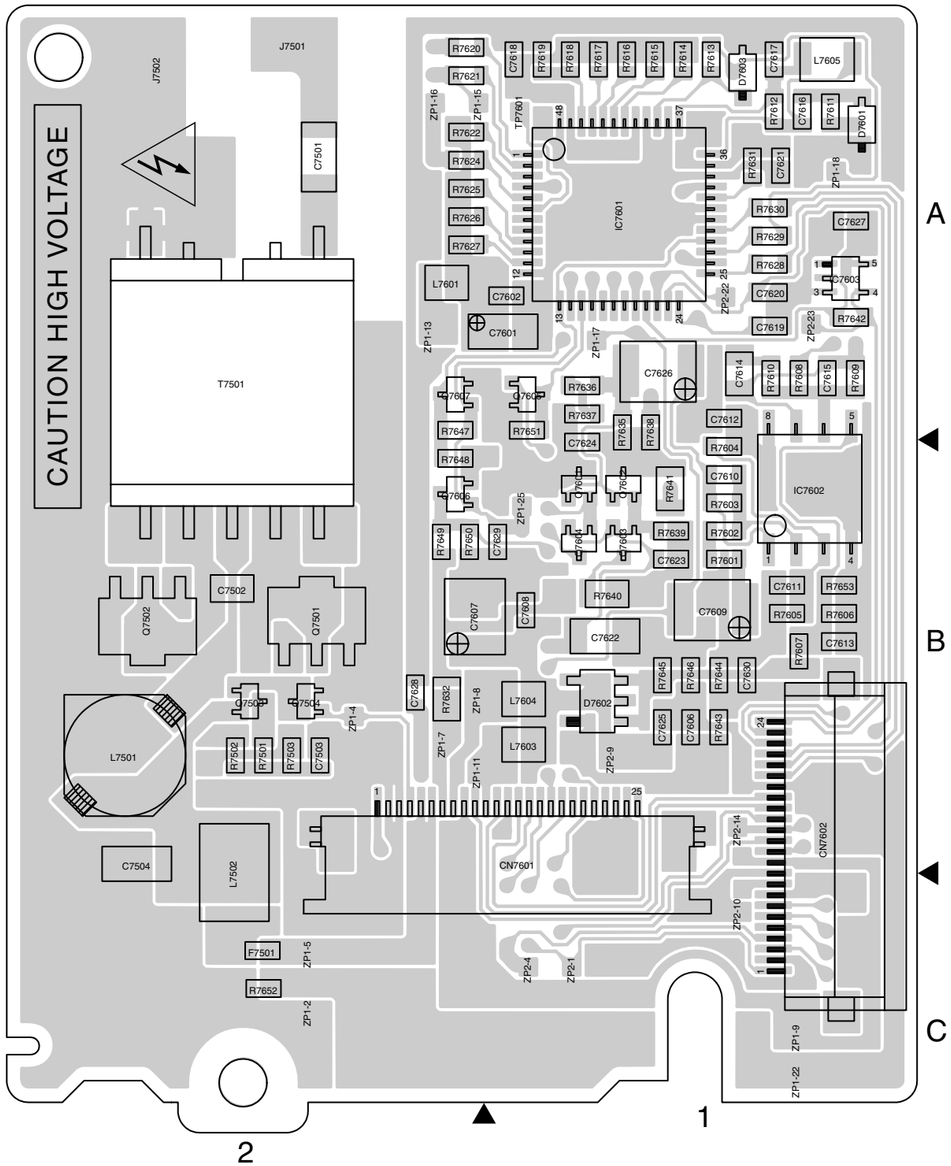
COMPONENT SIDE(A)



4.19 MONITOR CIRCUIT BOARD

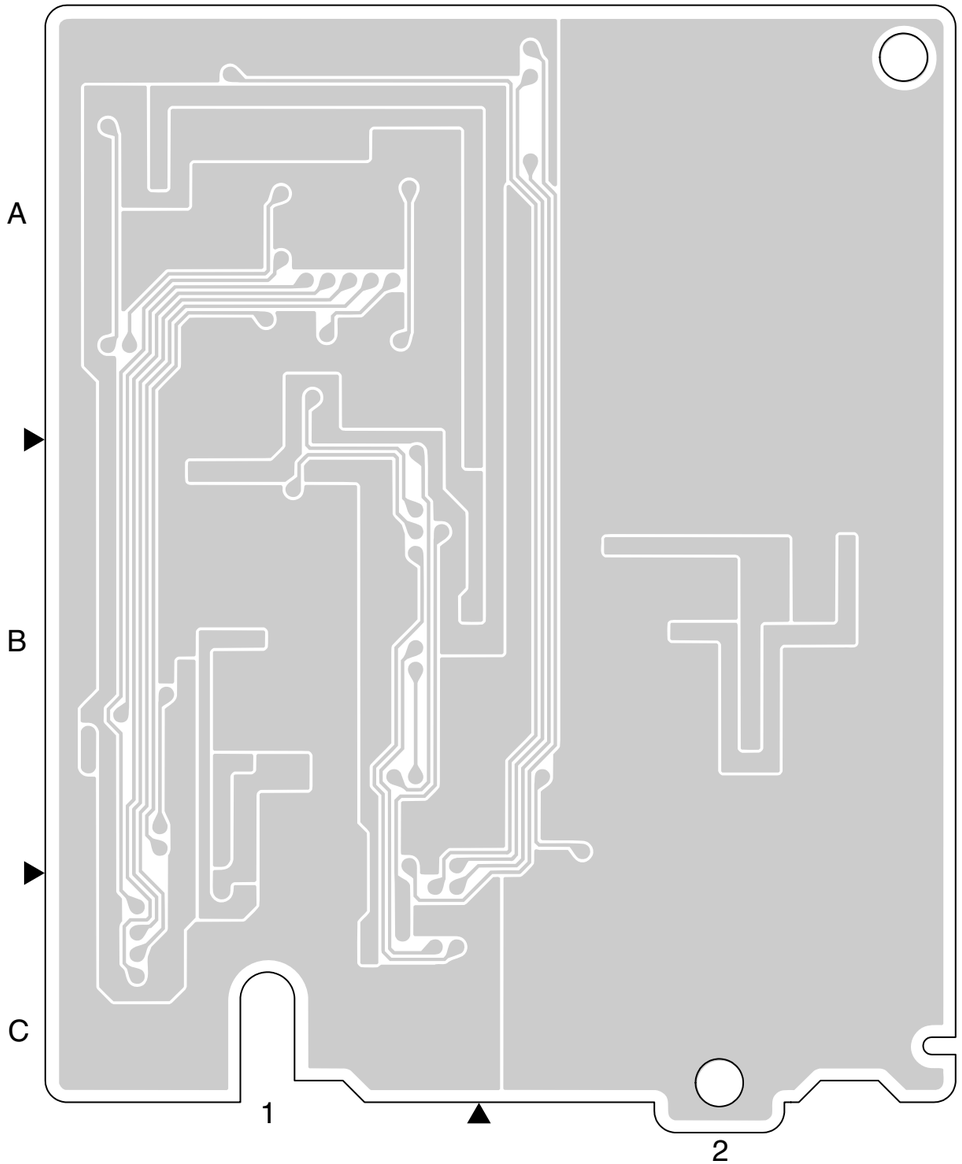
FOIL SIDE(B)

07 MONITOR PWB
YB20913



07 MONITOR PWB
YB20913

COMPONENT SIDE(A)



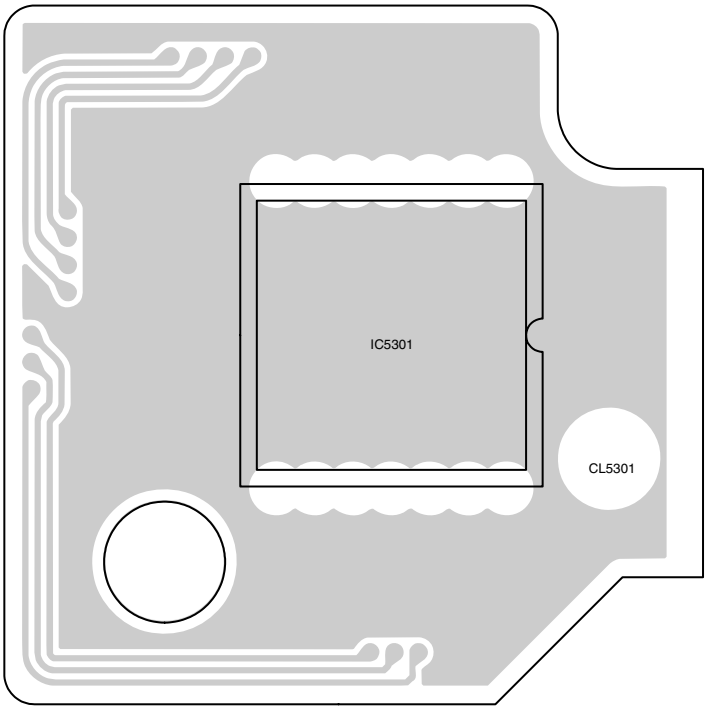
COMPONENT PARTS LOCATION GUIDE <MONITOR/YB20913>

REF.NO.	LOCATION
CAPACITOR	
C7501	B C 2A
C7502	B C 2B
C7503	B C 2B
C7504	B C 2B
C7601	B C 1A
C7602	B C 1A
C7606	B C 1B
C7607	B C 2B
C7608	B C 1B
C7609	B C 1B
C7610	B C 1B
C7611	B C 1B
C7612	B C 1A
C7613	B C 1B
C7614	B C 1A
C7615	B C 1A
C7616	B C 1A
C7617	B C 1A
C7618	B C 1A
C7619	B C 1A
C7620	B C 1A
C7621	B C 1A
C7622	B C 1B
C7623	B C 1B
C7624	B C 1B
C7625	B C 1B
C7626	B C 1A
C7627	B C 1A
C7628	B C 2B
C7630	B C 1B
CONNECTOR	
CN7601	B C 2B
CN7602	B C 1C
DIODE	
D7601	B C 1A
D7602	B C 1B
D7603	B C 1A
FUSE	
F7501	B C 2C
IC	
IC7601	B C 1A
IC7602	B C 1B
IC7603	B C 1A
COIL	
L7501	B C 2B
L7502	B C 2C
L7601	B C 2A
L7603	B C 1B
L7604	B C 1B
L7605	B C 1A
TRANSISTOR	
Q7501	B C 2B
Q7502	B C 2B
Q7503	B C 2B
Q7504	B C 2B
Q7601	B C 1B
Q7602	B C 1B
Q7603	B C 1B
Q7604	B C 1B
Q7605	B C 1A
Q7606	B C 2B
Q7607	B C 2A
RESISTOR	
R7501	B C 2B
R7502	B C 2B
R7503	B C 2B
R7601	B C 1B
R7602	B C 1B
R7603	B C 1B
R7604	B C 1B
R7605	B C 1B
R7606	B C 1B
R7607	B C 1B
R7608	B C 1A
R7609	B C 1A
R7610	B C 1A
R7611	B C 1A
R7612	B C 1A
R7613	B C 1A
R7614	B C 1A
R7615	B C 1A
R7616	B C 1A
R7617	B C 1A
R7618	B C 1A
R7619	B C 1A
R7620	B C 2A
R7621	B C 2A
R7622	B C 2A
R7624	B C 2A
R7625	B C 2A
R7626	B C 2A
R7627	B C 2A
R7628	B C 1A
R7629	B C 1A
R7630	B C 1A
R7631	B C 1A
R7632	B C 2B
R7635	B C 1A
R7636	B C 1A
R7637	B C 1A
R7638	B C 1A
R7639	B C 1B
R7640	B C 2A
R7641	B C 1B
R7642	B C 1A
R7643	B C 1B
R7644	B C 1B
R7645	B C 1B
R7646	B C 1B
R7647	B C 2A
R7648	B C 2B
R7649	B C 2B
R7650	B C 2B
R7651	B C 1B
R7652	B C 2C
R7653	B C 1B
TEST POINT	
TP7601	B C 1A
OTHER	
J7501	B C 2A
J7502	B C 2A
T7501	B C 2A
ZP1-2	B C 2A
ZP1-4	B C 2B
ZP1-5	B C 2C
ZP1-7	B C 2B
ZP1-8	B C 2B
ZP1-9	B C 1C
ZP2-1	B C 1C
ZP2-4	B C 1C
ZP2-9	B C 1B
ZP1-11	B C 2B
ZP1-13	B C 2A
ZP1-15	B C 2A
ZP1-16	B C 2A
ZP1-17	B C 1A
ZP1-18	B C 1A
ZP1-22	B C 1C
ZP1-25	B C 1B
ZP2-10	B C 1C
ZP2-14	B C 1B
ZP2-22	B C 1A
ZP2-23	B C 1A

4.20 CCD CIRCUIT BOARD

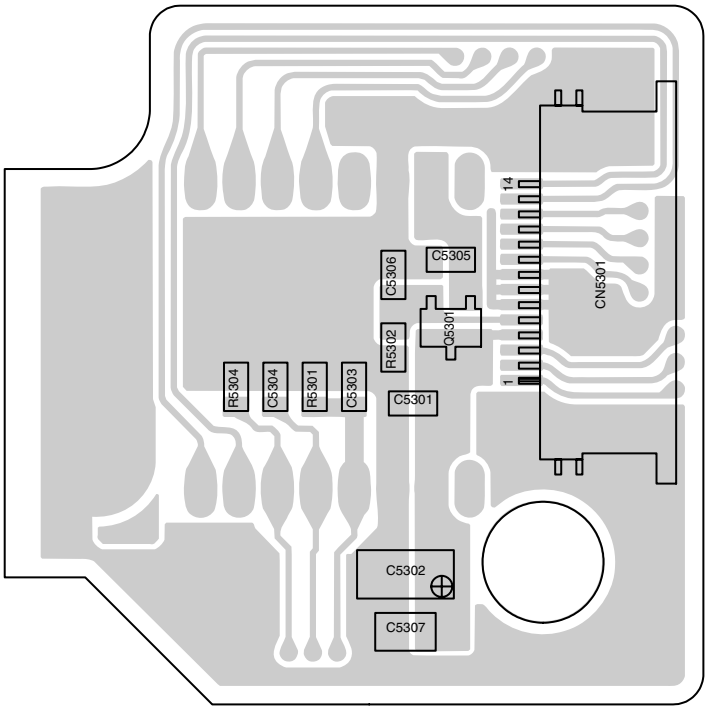
FOIL SIDE(B)

02 CCD PWB
YB10356-01-01



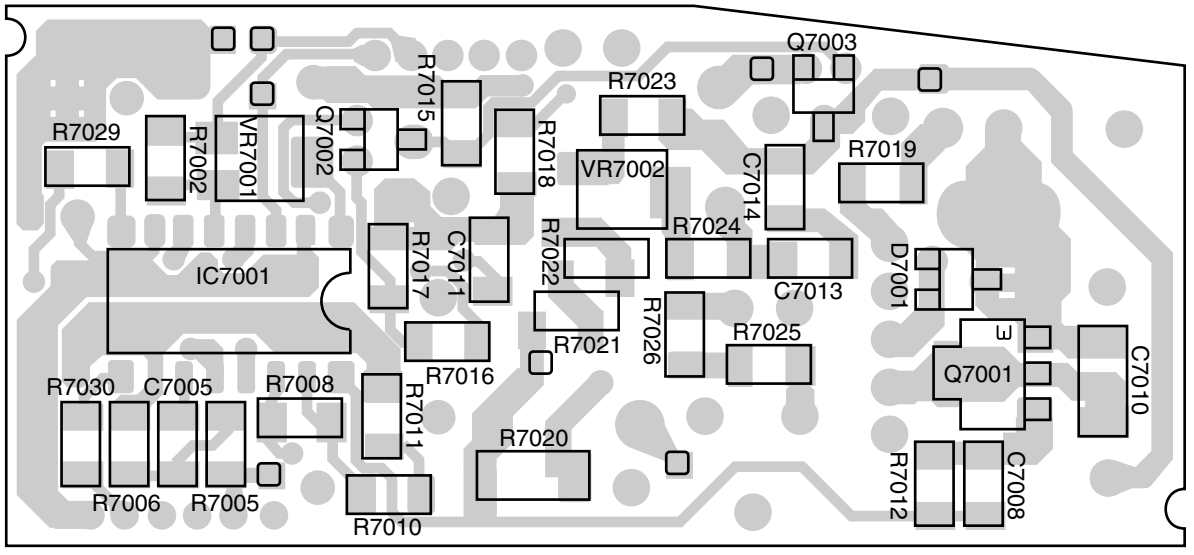
COMPONENT SIDE(A)

02 CCD PWB
YB10356-01-01



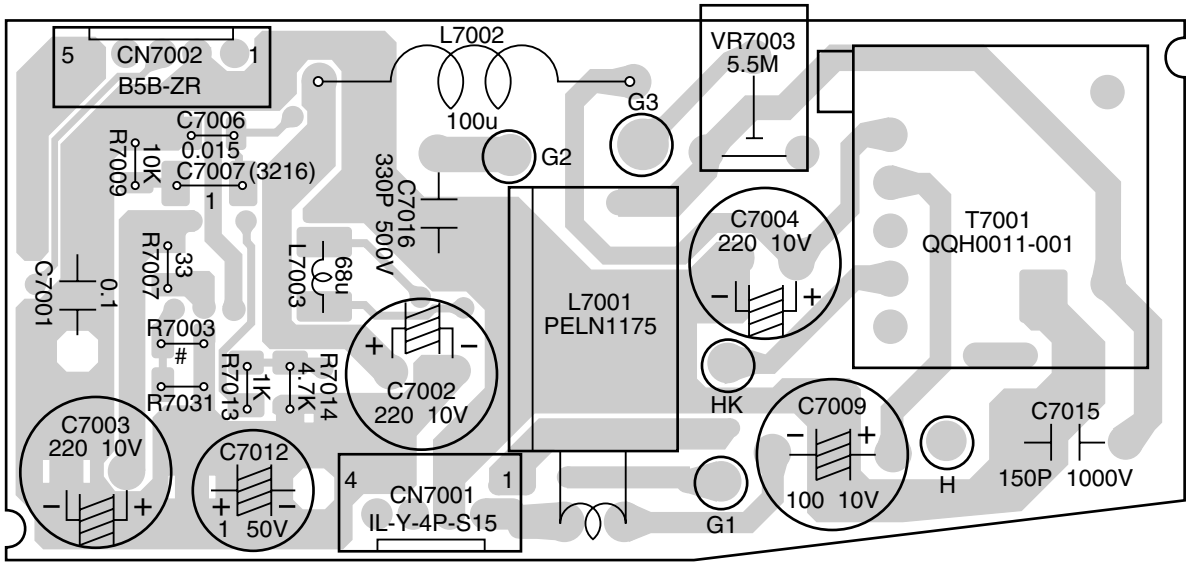
FOIL SIDE(B)

60 E. VF PWB



COMPONENT SIDE (A)

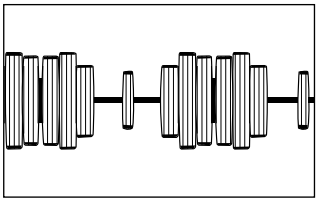
60 E. VF PWB



4.22 WAVEFORMS

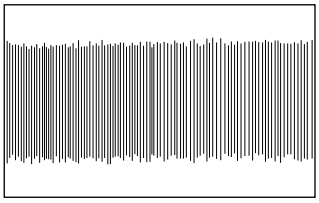
— VTR ASP —

WF1 IC3501-19



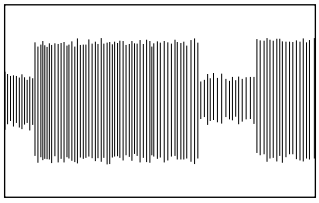
REC 0.1 Vp-p
2 mV/10 µsec/DIV

WF2 IC3501-20



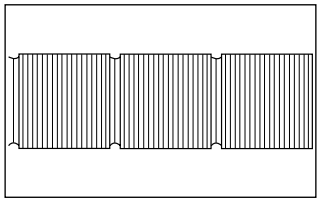
REC 0.57 Vp-p
10 mV/10 µsec/DIV

WF3 IC3501-21



PB 24 mVp-p
1 mV/5 msec/DIV

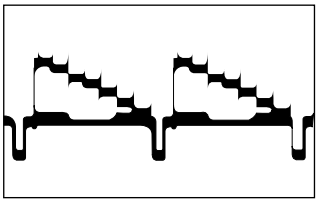
WF4 IC3501-25



PB 0.24 Vp-p
20 mV/5 msec/DIV

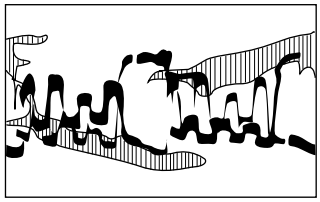
— DSP —

WF1 IC4001-146



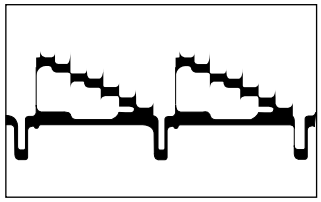
REC/PB 0.28 Vp-p
10 mV/20 µsec/DIV

WF2 IC4001-147



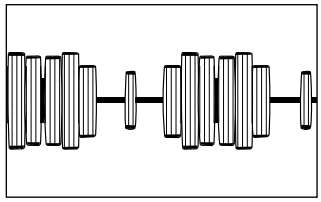
REC 0.52 Vp-p
20 mV/10 µsec/DIV
PB 0.3 Vp-p
10 mV/10 µsec/DIV

WF3 IC4001-160



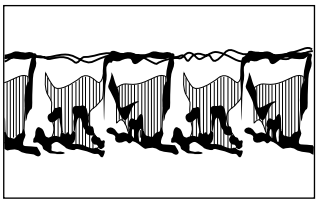
REC/PB 0.28 Vp-p
10 mV/20 µsec/DIV

WF4 IC4001-161



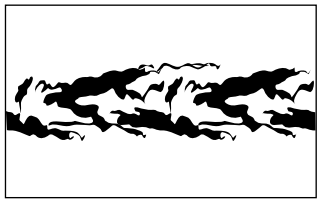
REC 0.15 Vp-p
PB 0.33 Vp-p
5 mV/10 µsec/DIV

WF5 IC4001-168



REC 0.76 Vp-p
20 mV/10 µsec/DIV
PB 0.17 Vp-p
5 mV/10 µsec/DIV

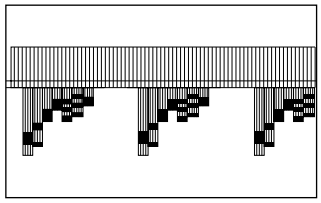
WF6 IC4001-169



REC 0.48 Vp-p
PB 0.13 Vp-p
10 mV/10 µsec/DIV

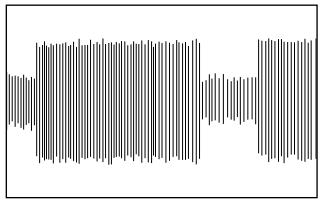
— TG/CDS —

WF1 IC5201-26



REC 0.26 Vp-p
5 mV/10 µsec/DIV

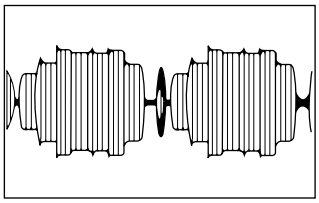
WF2 IC5201-27



PB 24 mVp-p
1 mV/5 msec/DIV

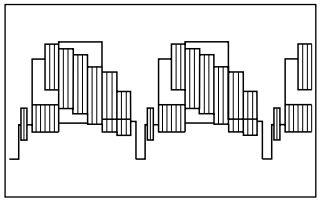
— V OUT —

WF1 IC4702-9



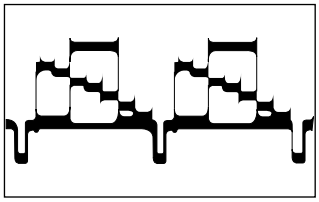
REC/PB 0.34 Vp-p
10 mV/10 µsec/DIV

WF2 IC4702-12



REC 0.66 Vp-p
PB 0.64 Vp-p
10 mV/10 µsec/DIV

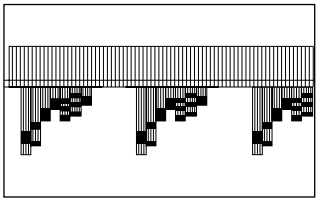
WF3 IC4702-15



REC 0.57 Vp-p
PB 0.55 Vp-p
10 mV/10 µsec/DIV

— CCD —

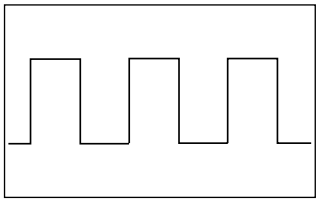
WF1 Q5301-B



EE 0.52 Vp-p
10 mV/10 µsec/DIV

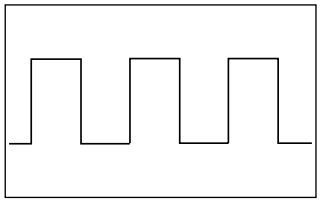
— CPU —

WF1 IC101-109



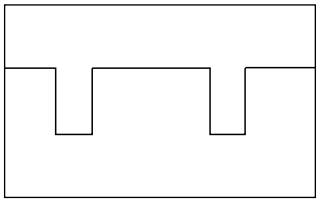
REC/PB 0.96 Vp-p
20 mV/0.5 msec/DIV

WF2 IC101-111



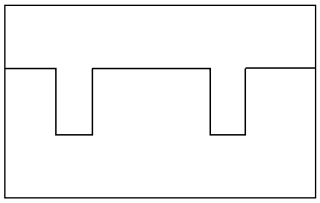
REC/PB 0.96 Vp-p
20 mV/0.1 msec/DIV

WF3 IC101-113



REC/PB 0.9 Vp-p
50 mV/5 msec/DIV

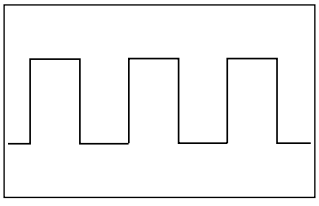
WF2 IC1601-26



REC/PB 0.9 Vp-p
50 mV/5 msec/DIV

— M.MDA —

WF1 IC1601-25



REC/PB 0.96 Vp-p
20 mV/0.1 msec/DIV

4.23 VOLTAGE CHARTS

<CPU>

MODE PIN NO.	REC	PLAY
IC101		
1	3.2	3.2
2	3.2	3.2
3	0	0
4	3.3	3.2
5	0	0
6	0	0
7	3.2	3.2
8	3.2	3.2
9	0.7	0
10	3.2	3.2
11	0	0
12	0	1.3
13	3.2	3.2
14	0	0
15	0	0
16	1.5	0
17	0	0
18	3.2	3.2
19	0	0
20	0	0
21	3.2	0
22	1.6	0
23	3.2	3.2
24	2.9	2.7
25	3.1	3.1
26	1.6	1.5
27	0	0
28	0	0
29	3.2	3.2
30	3.2	3.2
31	3.2	2.5
32	3.2	3.2
33	3.2	3.2
34	3.2	3.2
35	3.2	3.2
36	0	0
37	0	0
38	0	3.2
39	3.2	3.2
40	0	0
41	0	0
42	3.2	0
43	0	0
44	0	0
45	0	0
46	3.0	3.0
47	0	0
48	0	0
49	3.0	0
50	3.0	3.0
51	0	3.0
52	3.1	3.1
53	-	-
54	-	-
55	3.2	3.3
56	0	0
57	1.3	1.3
58	1.7	1.7
59	2.1	0
60	0	0
61	2.9	2.9
62	2.9	2.8
63	0	0
64	0	0
65	0	0
66	3.3	3.3
67	3.2	3.2
68	0	0
69	3.2	3.2
70	1.5	1.5
71	-	-
72	0	0
73	1.6	1.6
74	0	0
75	0	0
76	0	0
77	0	0
78	0	0
79	0	0
80	0	0
81	3.2	3.2
82	0	0
83	1.9	0
84	0	0
85	3.2	0
86	3.2	0
87	0	0
88	0	0
89	0	0
90	3.2	3.2
91	3.3	3.3
92	3.0	3.0
93	3.1	3.0
94	3.2	3.2
95	3.0	3.0
96	0	0
97	0	0
98	0	0
99	3.2	3.2
100	0	0
101	3.0	3.0
102	0	0
103	1.6	1.6
104	1.0	0.6
105	3.2	3.2
106	0	0
107	3.1	3.2
108	3.1	3.1
109	1.7	1.6
110	0	0
111	1.6	1.7
112	1.8	1.8
113	2.9	2.9
114	0	0
115	2.9	3.0
116	3.2	3.2
117	0	2.8
118	3.2	3.2
119	3.2	3.2
120	3.2	0
121	2.9	2.9
122	0	0
123	0	0
124	0	0
125	2.2	0.5
126	3.2	3.2
127	0	0
128	3.2	3.2
129	0	0
130	1.7	1.7
131	0	3.3
132	0	-
133	3.3	3.3
134	0	0
135	3.2	3.2
136	3.2	3.2
137	0	0
138	0	0
139	0	0
140	3.2	3.2
141	3.2	3.2
142	3.2	3.2
143	3.2	3.2
144	3.2	3.2
145	0.8	0.8
146	0.8	0.8
147	0.8	0.8
148	0.7	0.7
149	0.7	0.7
150	0.8	0.7
151	0.7	0.6
152	0.8	0.6
153	3.2	3.2
154	0	0
155	0.7	0.8
156	0.8	0.6
157	0.8	0.7
158	0.8	0
159	0.6	0.6
160	0.7	0.5
161	0.5	0.7
162	0.6	0.5
163	0	0
164	3.2	3.2
165	0	0
166	3.2	3.2
167	0	0
168	0	0
169	1.6	1.6
170	3.2	3.2
171	0	0
172	0	0
173	0	0
174	0	3.2
175	3.2	3.2
176	3.2	3.2
IC102		
1	3.2	3.2
2	3.2	3.2
3	3.2	3.2
4	0	0
5	3.2	3.2
6	3.2	3.2
7	3.2	3.2
8	3.2	3.2
IC103		
1	0	0
2	3.2	3.2
3	3.2	3.2
4	0	0
5	0	0
6	0.6	0.6
7	0.7	0.8
8	3.1	3.1
IC104		
1	3.2	3.2
2	3.2	3.2
3	0	0
4	0	0
IC105		
1	3.2	3.2
2	3.2	3.2
3	0	0
4	2.7	2.6
5	3.2	3.2
IC1801		
1	2.7	2.7
2	0	0
3	4.8	4.8
Q101		
E	11.1	11.1
C	11.1	11.1
B	10.3	10.3
Q102		
E	0	0
C	0	0
B	3.2	3.2
Q103		
E	0	0
C	0	4.8
B	0.7	0
Q104		
E	0	0
C	4.5	4.5
B	0	0
Q105		
E	4.8	4.8
C	0	-0.5
B	4.8	4.7
Q108		
E	0	0
C	0	0
B	3.2	3.2
Q109		
E	0	0
C	2.1	2.1
B	0	0

<M.MDA>

MODE PIN NO.	REC	PLAY
IC1601		
1	0	0
2	0	0
3	1.7	1.7
4	2.6	2.6
5	2.4	3.3
6	1.7	1.7
7	1.6	1.6
8	0	0
9	0	0
10	1.2	-
11	0	0.4
12	0.4	0.4
13	1.8	1.8
14	0	0
15	1.4	1.4
16	8.4	8.5
17	11.1	11.1
18	10.3	10.3
19	1.6	1.6
20	0	0
21	1.4	0
22	3.2	3.2
23	0	0
24	0	0
25	1.6	1.6
26	2.9	3.0
27	1.6	1.7
28	1.2	1.2
29	1.2	-
30	1.2	-
31	0	0
32	1.2	1.2
33	1.2	0
34	1.2	-
35	0	0
36	0	3.0
37	0	0
38	1.4	1.5
39	1.6	1.6
40	1.3	1.3
41	3.1	3.1
42	0	2.5
43	1.5	1.6
44	1.6	1.6
45	1.6	1.6
46	1.6	1.6
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	0.8	0.8
55	0	0
56	11.1	11.1
57	0	0
58	0	0
59	0	1.7
60	0	1.4
61	1.6	1.6

MODE PIN NO.	REC	PLAY
62	1.4	1.4
63	1.7	1.6
64	1.5	1.4
IC1602		
1	0.4	0.4
2	0	0
3	2.2	2.2
4	3.2	3.2
5	3.2	3.2
Q1601		
E	1.7	1.7
C	11.1	11.1
B	5.8	5.8

<VTR ASP>

MODE PIN NO.	REC	PLAY
IC2001		
1	1.5	3.2
2	1.6	0
3	1.6	0
4	1.5	3.2
5	1.6	3.2
6	1.5	0
7	0	0
8	1.5	0
9	1.6	3.2
10	1.5	0
11	1.6	3.2
12	1.5	0
13	1.6	3.2
14	3.1	3.2
IC3501		
1	2.2	2.2
2	2.2	2.5
3	2.2	2.2
4	2.2	2.1
5	2.2	2.5
6	2.2	2.2
7	4.7	4.7
8	2.2	2.1
9	2.2	2.5
10	2.2	2.1
11	2.1	2.1
12	2.2	2.5
13	2.2	2.1
14	0	0
15	3.2	0
16	2.8	1.4
17	4.0	5.2
18	0	0
19	2.8	0
20	2.8	0
21	1.1	2.1
22	0	2.1
23	2.1	2.1
24	4.7	4.7
25	2.8	2.4
26	0	2.9
27	2.5	2.5
28	2.9	2.9

MODE PIN NO.	REC	PLAY
29	0	0
30	1.5	1.5
31	3.2	3.2
32	0.7	0
33	3.2	3.2
34	1.8	1.8
35	1.9	0
36	0	0
37	2.6	2.3
38	3.0	3.0
39	4.7	4.7
40	2.4	2.1
41	2.2	2.1
42	2.9	2.9
43	2.8	2.5
44	2.7	2.4
45	2.4	2.5
46	2.5	2.5
47	0	0
48	2.5	2.5
49	2.5	2.5
50	0	0
51	2.4	2.4
52	2.5	2.4
53	2.5	2.5
54	4.8	4.8
55	2.4	2.5
56	0	1.4
Q2001		
E	3.1	3.2
C	1.5	3.2
B	3.2	0
Q2007		
1(E)	-10.4	0
2(B)	-16.2	0.7
3(C)	0	0
4(E)	-10.4	0
5(B)	-16.2	0.7
6(C)	0	0
Q2008		
1(E)	3.1	1.8
2(B)	3.2	1.2
3(C)	3.2	1.2
4(E)	3.1	1.8
5(B)	3.2	1.2
6(C)	-16.4	0.8
Q2021		
E	0	0
C	0.6	0
B	0	0
Q2022		
E	0	0
C	0	0
B	0	0
Q2023		
E	0	0
C	0	0
B	0	0
Q2071		
E	4.5	4.5
C	4.7	4.8
B	4.7	4.8

MODE PIN NO.	REC	PLAY
Q3501		
1(E)	2.2	2.2
2(B)	2.4	2.2
3(C)	2.2	2.2
4(E)	2.2	2.2
5(B)	2.4	2.5
6(C)	2.2	2.2
Q3502		
1(E)	2.2	2.1
2(B)	0	2.2
3(C)	2.2	2.1
4(E)	2.2	2.1
5(B)	2.3	2.2
6(C)	2.2	2.1
Q3505		
E	0	0
C	2.8	0
B	0	2.7
Q3901		
1(E)	4.6	4.7
2(B)	0	4.9
3(C)	3.9	4.9
4(E)	0	0
5(B)	3.9	4.9
6(C)	0	0

<SPEAKER>

MODE PIN NO.	REC	PLAY
IC2401		
1	2.9	2.9
2	1.2	1.2
3	1.2	1.2
4	0	1.3
5	1.3	1.3
6	3.2	3.2
7	0	0
8	1.3	1.3
Q2401		
E	0	0
C	2.9	2.9
B	0	0

<DSP>

MODE PIN NO.	REC	PLAY
IC4001		
1	3.2	3.2
2	0	1.2
3	0	0
4	1.6	1.6
5	3.2	3.2
6	3.2	3.2
7	1.4	1.4
8	1.4	1.4
9	1.4	1.4
10	3.2	3.2
11	1.4	1.5
12	1.4	1.6
13	1.4	1.5

MODE PIN NO.	REC	PLAY
14	1.4	1.6
15	0	0
16	1.4	1.5
17	1.4	1.5
18	1.5	1.5
19	1.8	1.8
20	1.4	1.5
21	1.4	1.5
22	1.4	1.5
23	1.4	1.5
24	1.4	1.5
25	1.4	1.6
26	0	0
27	1.8	1.8
28	0	0
29	0	0
30	1.6	1.6
31	0	0.6
32	3.0	3.0
33	1.8	1.8
34	3.1	3.1
35	0	0
36	3.1	3.1
37	0	0
38	2.5	0
39	1.2	1.6
40	1.2	1.6
41	3.2	3.2
42	1.2	1.6
43	1.2	1.6
44	1.9	1.6
45	1.5	1.6
46	1.6	1.6
47	0.6	1.6
48	0	0
49	1.1	1.4
50	1.2	1.4
51	1.2	1.5
52	1.6	1.5
53	1.5	1.5
54	1.6	1.6
55	0	0
56	0	0
57	0	0
58	3.2	3.2
59	1.5	1.5
60	1.5	1.5
61	1.4	1.7
62	1.3	1.5
63	1.5	1.7
64	1.7	1.5
65	1.7	1.8
66	0.9	0.9
67	1.4	1.7
68	1.4	1.7
69	0	0
70	1.8	1.8
71	1.4	1.7
72	1.6	1.6
73	1.2	1.4
74	1.2	1.3
75	1.2	1.5

MODE PIN NO.	REC	PLAY
76	1.8	1.8
77	1.2	1.2
78	1.3	1.5
79	1.5	1.5
80	1.5	1.5
81	0.7	0.6
82	0	0
83	1.8	1.8
84	1.1	1.5
85	1.1	1.5
86	1.2	1.6
87	1.6	1.5
88	1.5	1.4
89	0	0
90	0	0
91	0	0
92	3.0	3.0
93	0	0
94	3.2	3.2
95	2.7	2.7
96	2.8	2.7
97	2.8	2.7
98	3.2	3.2
99	0	0
100	0	1.5
101	0.6	1.7
102	1.6	1.6
103	1.0	1.5
104	0	0
105	1.9	1.5
106	1.1	1.5
107	1.1	1.5
108	1.2	1.5
109	1.2	1.5
110	1.2	1.5
111	3.2	3.2
112	1.4	1.6
113	2.9	0
114	3.1	0
115	0	0
116	0	0
117	0	0
118	1.5	1.5
119	0	0
120	0	0
121	1.5	1.6
122	1.5	1.5
123	1.8	1.8
124	3.2	3.2
125	3.2	3.2
126	0.7	0
127	0	0
128	1.8	1.8
129	1.6	1.6
130	1.5	1.5
131	1.5	1.5
132	1.5	1.5
133	1.8	1.8
134	1.5	1.5
135	3.0	3.0
136	0	0
137	1.6	1.5

MODE PIN NO.	REC	PLAY
138	1.6	1.5
139	0	3.2
140	3.2	3.2
141	-	-
142	3.1	3.1
143	0	0
144	3.1	3.1
145	0	0
146	0.4	0.4
147	0.8	0.8
148	0.7	0.7
149	0.7	0.7
150	2.4	2.4
151	0	0
152	3.1	3.1
153	0	0
154	0	0
155	3.1	3.1
156	0	0
157	2.4	2.4
158	0.7	0.7
159	0.7	0.7
160	0.6	0.5
161	0.6	0.6
162	0	0
163	3.1	3.1
164	0	0
165	0	0
166	3.1	3.1
167	0	0
168	0.8	0.9
169	0.8	0.8
170	0.7	0.7
171	0.7	0.7
172	2.4	2.4
173	0	0
174	3.1	3.1
175	0	0
176	0	0
177	3.2	3.2
178	1.5	1.5
179	0	0
180	1.5	1.5
181	3.2	3.2
182	0	0
183	3.1	3.1
184	3.0	3.0
185	1.3	1.2
186	0	0
187	0	0
188	0	0
189	0	0
190	1.8	1.8
191	0	0
192	20	0
193	0	0
194	0	0
195	0	0
196	0	0
197	0	0
198	0	0
199	0	0

MODE PIN NO.	REC	PLAY
200	3.2	3.2
201	0	0
202	0	0
203	0	0
204	1.8	1.8
205	0	0
206	3.1	3.1
207	0	0
208	2.4	2.4
209	0.7	0.7
210	0.7	0.7
211	0.6	0
212	0	0
213	0	0
214	3.1	3.1
215	0	0
216	0	0
217	3.1	3.1
218	0	0
219	1.6	1.6
220	1.5	1.5
221	1.2	1.2
222	1.6	1.6
223	1.7	1.7
224	0	0
225	3.1	3.1
226	0	0
227	2.5	2.9
228	3.1	1.4
229	2.0	2.0
230	0	0
231	3.2	3.2
232	1.6	1.6
233	0	1.4
234	2.3	2.3
235	1.6	1.6
236	0	0
237	1.4	1.5
238	1.5	1.5
239	1.5	1.5
240	0	0
IC4002		
1	0	0
2	0	0
3	1.5	1.5
4	1.1	1.6
5	1.1	1.5
6	1.1	1.5
7	0.6	0.6
8	1.3	1.3
9	1.3	1.4
10	1.1	1.5
11	1.0	1.1
12	1.1	1.5
13	1.3	1.3
14	1.2	1.3
15	1.5	1.4
16	0	0
17	2.7	2.7
18	3.0	3.0
19	3.2	3.2
20	0	0

MODE PIN NO.	REC	PLAY
21	3.2	3.2
22	2.8	2.7
23	2.7	2.7
24	0	0
25	1.5	1.4
26	1.4	1.5
27	1.5	1.5
28	1.4	1.6
29	1.3	1.3
30	1.4	1.5
31	1.5	1.5
32	1.7	1.6
33	0.8	0.9
34	1.3	1.8
35	1.4	1.9
36	1.4	1.8
37	1.6	1.8
38	0	0
IC4003		
1	3.1	3.1
2	2.5	2.5
3	2.9	2.7
4	3.2	3.2
5	3.2	3.2
6	0	0
7	1.3	1.3
8	1.3	1.3
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	3.1	3.1
20	3.0	2.9
Q4001		
E	0	0
C	0	0
B	0	0

<F/Z/I/MDA>

MODE PIN NO.	REC	PLAY
IC4201		
1	2.2	0.5
2	1.9	1.9
3	1.9	1.9
4	4.8	4.8
5	1.9	1.9
6	1.9	1.9
7	1.9	1.9
8	1.6	1.6
9	1.9	1.9
10	1.9	1.9
11	0	0
12	1.9	1.9
13	1.9	1.9
14	2.5	2.5

MODE PIN NO.	REC	PLAY
IC4202		
1	1.8	3.6
2	1.5	0.4
3	1.4	0.4
4	4.8	4.8
5	2.1	0
6	2.1	0.5
7	1.2	0
8	0	0.9
9	0	0
10	0	0
11	0	0
12	1.9	1.9
13	1.9	1.9
14	1.9	1.9
IC4501		
1	0	0
2	0.8	0.8
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	3.2	3.2
9	4.8	4.8
10	0.6	2.2
11	0	0
12	0.6	2.2
13	4.8	4.8
14	0.6	0.8
15	0	0
16	0.6	3.6
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
23	4.8	4.8
24	1.0	0.8
25	0	0
26	1.0	0.8
27	4.8	4.8
28	1.0	0.7
29	0	0
30	1.0	0.7
31	0	0
32	0	0
33	0	0
34	0.7	0
35	3.2	3.2
36	1.6	1.6
37	1.5	1.5
38	3.2	3.2
Q4201		
E	0	0
C	1.3	1.3
B	0.9	0.9
Q4202		
E	1.3	2.9
C	4.8	4.8
B	2.0	3.6

MODE PIN NO.	REC	PLAY
Q4251		
E	0	0
C	4.5	4.5
B	-	-
Q4501		
E	0	0
C	4.2	4.2
B	0	0

<V OUT>

MODE PIN NO.	REC	PLAY
IC4702		
1	0	0
2	2.3	2.4
3	0	0
4	0	0
5	0	0
6	0	0
7	1.9	1.9
8	0	0
9	2.3	2.3
10	0	0
11	2.2	2.1
12	2.4	2.4
13	4.7	4.8
14	1.9	1.9
15	2.0	2.0
16	4.7	4.8
Q4701		
E	1.1	1.1
C	0	0
B	0.5	0.5
Q4702		
E	1.2	1.2
C	0	0
B	0.5	0.5

<TG/CDS>

MODE PIN NO.	REC	PLAY
IC5201		
1	0	0
2	1.2	1.5
3	1.2	1.5
4	1.1	1.5
5	1.0	1.5
6	1.0	1.5
7	2.0	1.5
8	1.0	1.5
9	1.3	1.5
10	0.6	1.6
11	0	1.5
12	0	0
13	0	0
14	0	0
15	3.0	3.1
16	1.6	1.5
17	3.0	0
18	2.8	0

MODE PIN NO.	REC	PLAY
19	2.7	0
20	2.5	0
21	0	0
22	0	0
23	3.0	3.1
24	0	0
25	0	0
26	2.0	0
27	1.5	1.5
28	2.0	0
29	2.0	0
30	0	0
31	3.0	3.1
32	2.0	2.0
33	1.0	1.0
34	1.5	1.5
35	1.2	1.2
36	0	0
37	0	0
38	3.1	3.2
39	0	1.0
40	0	0
41	3.0	3.1
42	0	0
43	3.2	3.2
44	3.1	3.1
45	0.7	0
46	3.0	3.1
47	0	0
48	0	0
IC5202		
1	3.0	3.1
2	3.0	3.1
3	1.5	1.6
4	3.0	0
5	3.0	0
6	2.5	0
7	0	0
8	1.5	1.5
9	3.0	3.1
10	1.5	1.6
11	1.2	1.2
12	1.4	1.6
13	3.0	3.1
14	0	0
15	2.6	0
16	2.6	0
17	2.6	0
18	2.6	0
19	3.0	3.1
20	3.0	3.1
21	1.7	0
22	1.5	0
23	0	0
24	0	2.8
25	0	0
26	0	0
27	0	0
28	0	0
29	-7.8	0
30	0	14.9
31	14.9	14.9

MODE PIN NO.	REC	PLAY
32	-7.8	14.9
33	-8.3	14.9
34	-8.3	-8.4
35	0	0
36	0	0
37	0	0
38	0	0
39	3.2	3.2
40	0.7	0
41	0	0
42	3.0	3.1
43	0	0
44	3.0	3.1
45	0	0
46	3.2	0
47	2.9	0
48	3.1	0

<REG>

MODE PIN NO.	REC	PLAY
IC6001		
1	3.2	3.2
2	3.2	3.2
3	3.2	3.2
4	-	-
5	0	0
6	11.1	11.1
7	1.0	1.0
8	1.2	1.3
9	2.2	2.2
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	2.2	2.2
17	0	0
18	2.2	2.2
19	1.0	1.0
20	0.7	0.7
21	1.0	1.0
22	0.5	0.5
23	1.0	1.0
24	0.8	0.8
25	1.0	1.0
26	0.6	0.6
27	0.8	0.8
28	0	0
29	1.0	1.0
30	0	0
31	2.4	2.4
32	1.1	1.1
33	0	0
34	2.2	2.2
35	2.2	2.2
36	2.2	2.2
37	8.0	8.0
38	0	0

MODE PIN NO.	REC	PLAY
39	11.1	11.1
40	8.1	8.1
41	6.2	6.2
42	9.1	9.1
43	7.8	7.8
44	0	0
45	11.1	11.1
46	0	0
47	0	0
48	3.3	3.3
IC6801		
1	3.3	3.3
2	0	0
3	0	0
4	11.0	11.0
5	11.1	11.0
Q6101		
1	7.8	7.8
2	11.1	11.1
3	0	0
4	3.2	3.2
5	3.2	3.2
Q6201		
1	9.1	9.1
2	11.1	11.1
3	0	0
4	1.8	1.8
5	1.8	1.8
Q6301		
1	6.1	6.1
2	11.1	11.1
3	8.1	8.1
4	0	0
5	11.1	11.1
6	4.8	4.8
Q6306		
D	0	0
S	0	0
G	0.7	0.5
Q6401		
1	10.0	10.0
2	11.1	11.1
3	0	0
4	3.4	3.4
5	3.4	3.4
Q6501		
1	10.3	10.3
2	11.1	11.1
3	0	0
4	1.7	1.7
5	1.7	1.7
Q6608		
E	0	0
C	14.9	14.9
B	-0.9	-0.9
Q6621		
1(E)	4.2	4.2
2(B)	5.0	4.9
3(C)	14.3	14.3
4(E)	4.3	4.3
5(B)	4.7	4.8
6(C)	14.7	14.9

MODE PIN NO.	REC	PLAY
Q6622		
E	14.9	14.9
C	12.1	12.1
B	14.3	14.3
Q6701		
1	0	0
2	0	0
3	11.1	11.1
4	11.1	11.1
5	0	0
6	0	0
Q6702		
E	0	0
C	0	0
B	0	0
Q6802		
E	3.3	3.3
C	3.3	3.3
B	0	0
Q6811		
E	1.4	1.4
C	0	0
B	0.8	0.8

<LCD/CVF>

MODE PIN NO.	REC	PLAY
Q7011	-	-
Q7013		
1(E)	0.8	0.8
2(B)	1.3	1.3
3(C)	4.8	4.8
4(E)	2.3	2.3
5(B)	2.9	2.9
6(C)	-	-
Q7015		
1(E)	0.8	0.8
2(B)	1.3	1.4
3(C)	4.8	4.8
4(E)	2.3	2.3
5(B)	2.9	2.9
6(C)	2.9	2.9

<BW/CVF>

MODE PIN NO.	REC	PLAY
Q7301		
E	0	0
C	0	0
B	0.4	0.4
Q7310		
E	4.8	4.8
C	0	0
B	4.8	4.8
Q7311		
E	0	0
C	4.8	4.8
B	0	0

<JACK>

MODE PIN NO.	REC	PLAY
IC8001		
1	0	0
2	3.2	3.2
3	3.2	3.2
4	3.2	3.2
5	3.2	3.2
6	0	0
7	0	0
8	0	0
9	3.2	3.2
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	3.2	3.2
16	3.2	3.2

<CCD>

MODE PIN NO.	EE
IC5301	
1	-7.8
2	0
3	-0.3
4	-0.3
5	0
6	0
7	0
8	0
9	0
10	6.9
11	-8.3
12	8.6
13	1.6
14	1.2
Q5301	
E	0
C	14.9
B	11.2

<MONITOR>

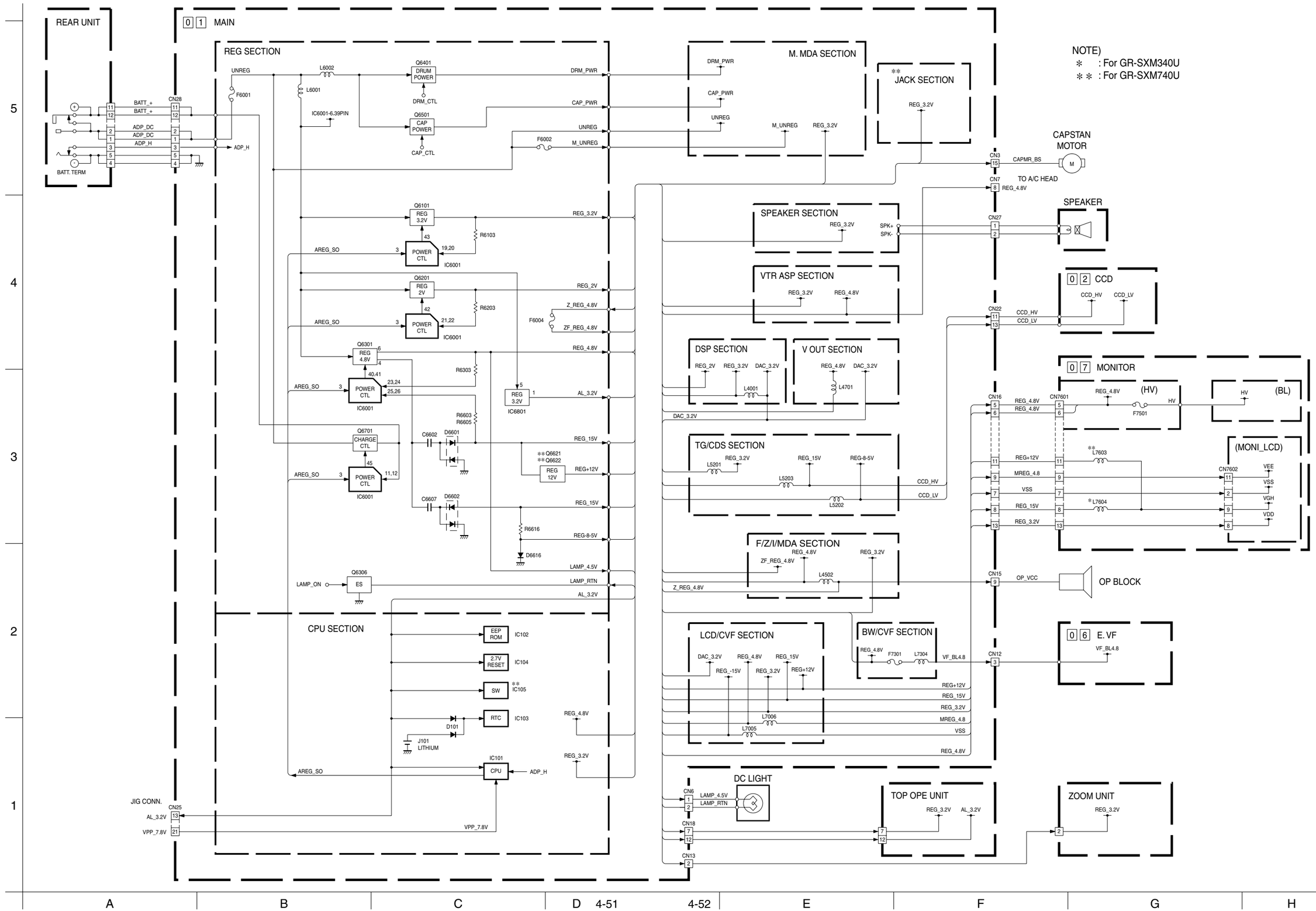
MODE PIN NO.	EE
IC7601	
1	0.8
2	3.0
3	3.2
4	0
5	3.1
6	3.0
7	3.1
8	0
9	0
10	0
11	0
12	0
13	2.5
14	1.6
15	0
16	0
17	0
18	0
19	0
20	0
21	0.4
22	1.6
23	0
24	0
25	1.4
26	0
27	1.4
28	2.5
29	1.4
30	0
31	0
32	3.2
33	1.6
34	0
35	3.2
36	1.5
37	1.5
38	0
39	3.2
40	0
41	3.2
42	0
43	3.2
44	0
45	3.2
46	0
47	3.2
48	0
IC7602	
1	6.0
2	6.0
3	6.0
4	0
5	1.6
6	1.6
7	9.8
8	12.1
IC7603	-

MODE PIN NO.	EE
Q7501	
E	0
C	4.4
B	0.4
Q7502	
E	0
C	4.4
B	0.4
Q7503	
E	4.5
C	4.5
B	0
Q7504	
E	0
C	0
B	3.2
Q7601	
E	-8.7
C	0
B	0
Q7602	
E	-8.0
C	-14.7
B	-8.3
Q7603	
E	-8.4
C	-1.8
B	-8.0
Q7604	
E	-8.4
C	0
B	-8.7
Q7606	
E	3.2
C	-13.0
B	2.5
Q7607	
E	0
C	0
B	2.5

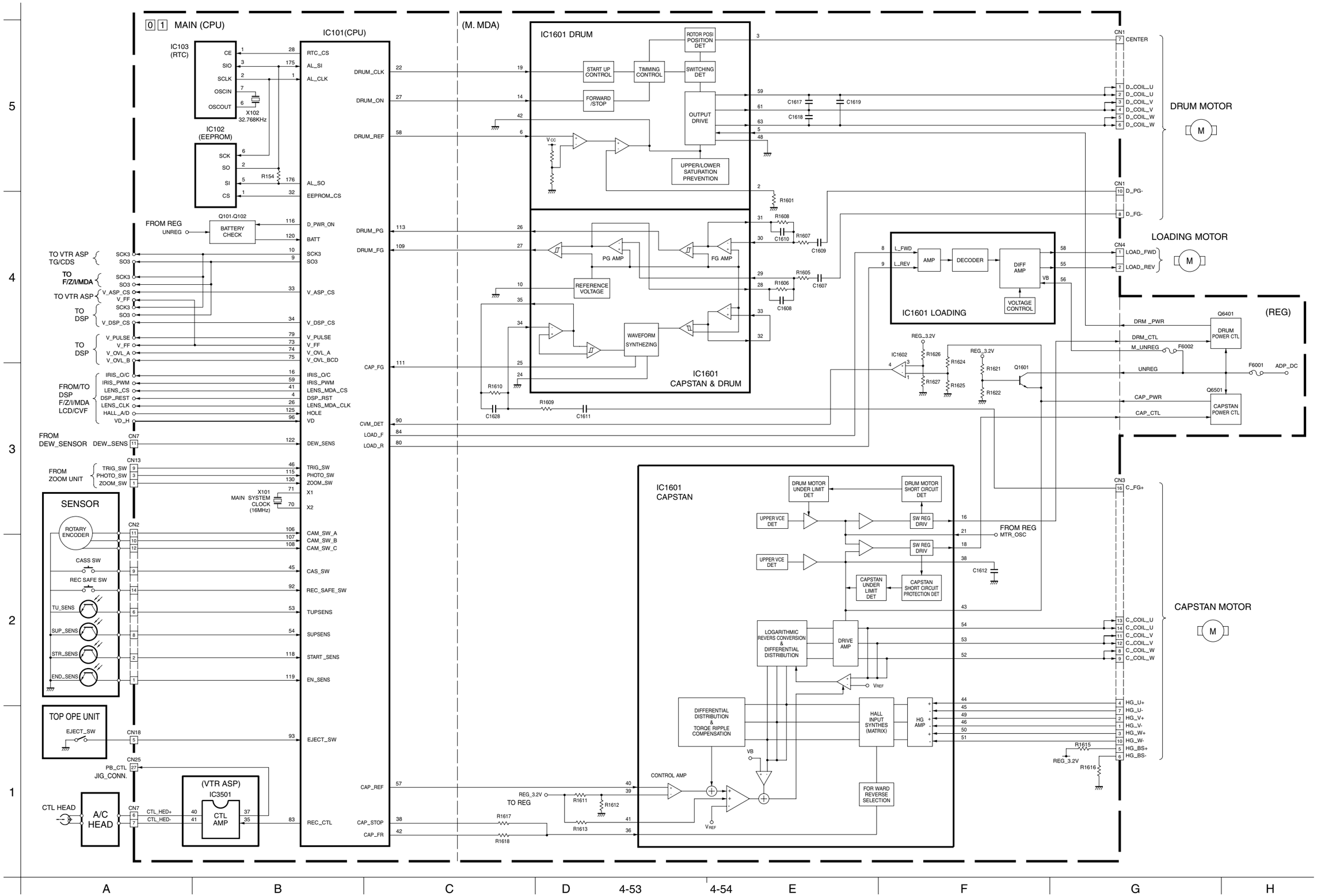
<E.VF>

MODE PIN NO.	EE
IC7001	
1	2.1
2	4.9
3	2.0
4	0
5	2.1
6	1.3
7	2.0
8	6.0
9	4.2
10	0
11	1.9
12	4.5
13	2.8
14	1.7
15	1.8
16	1.6
Q7001	
E	0
C	4.4
B	0.5
Q7002	
E	2.8
C	-24.8
B	2.3
Q7003	
E	-24.0
C	-34.3
B	-24.6

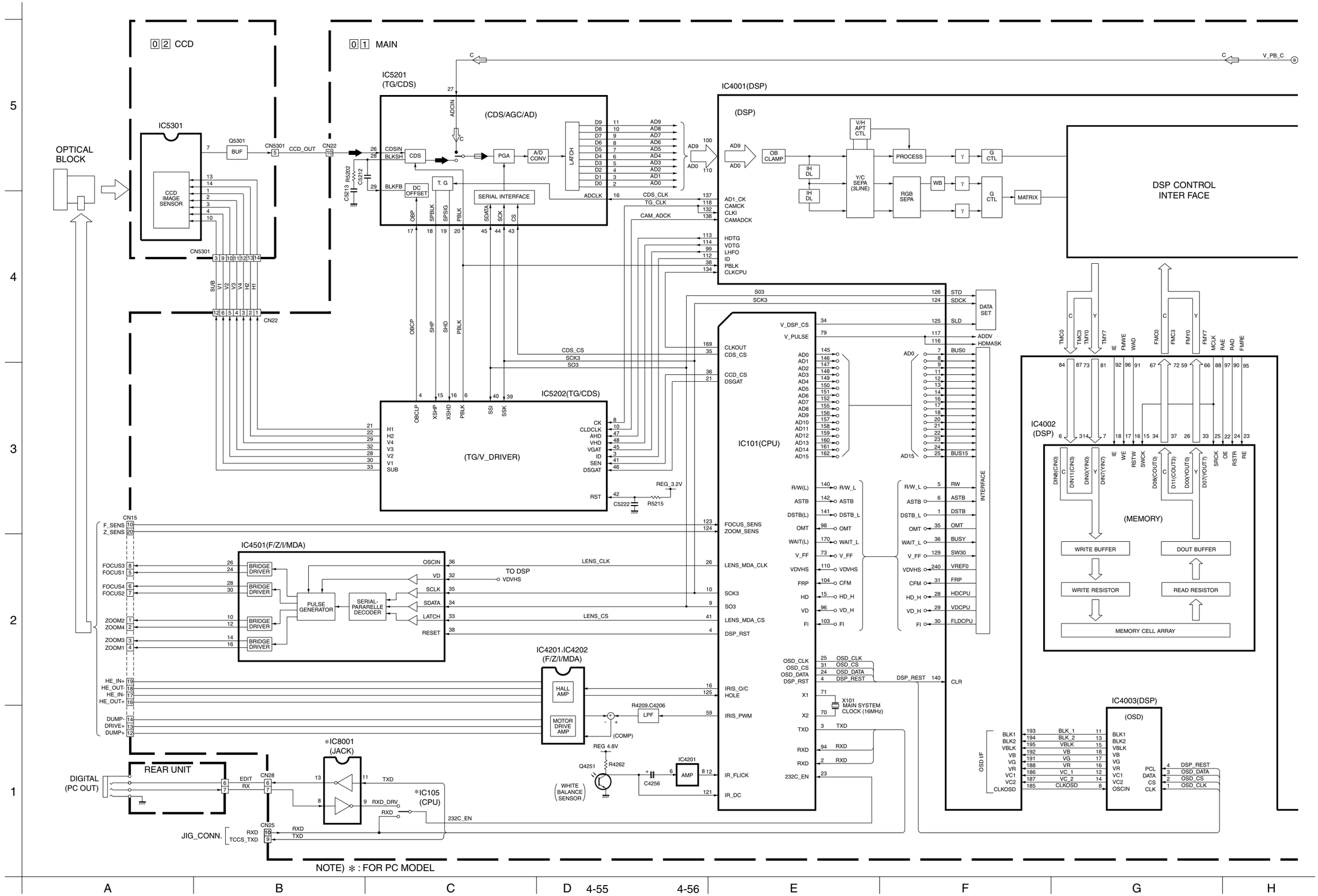
4.24 POWER SYSTEM BLOCK DIAGRAM

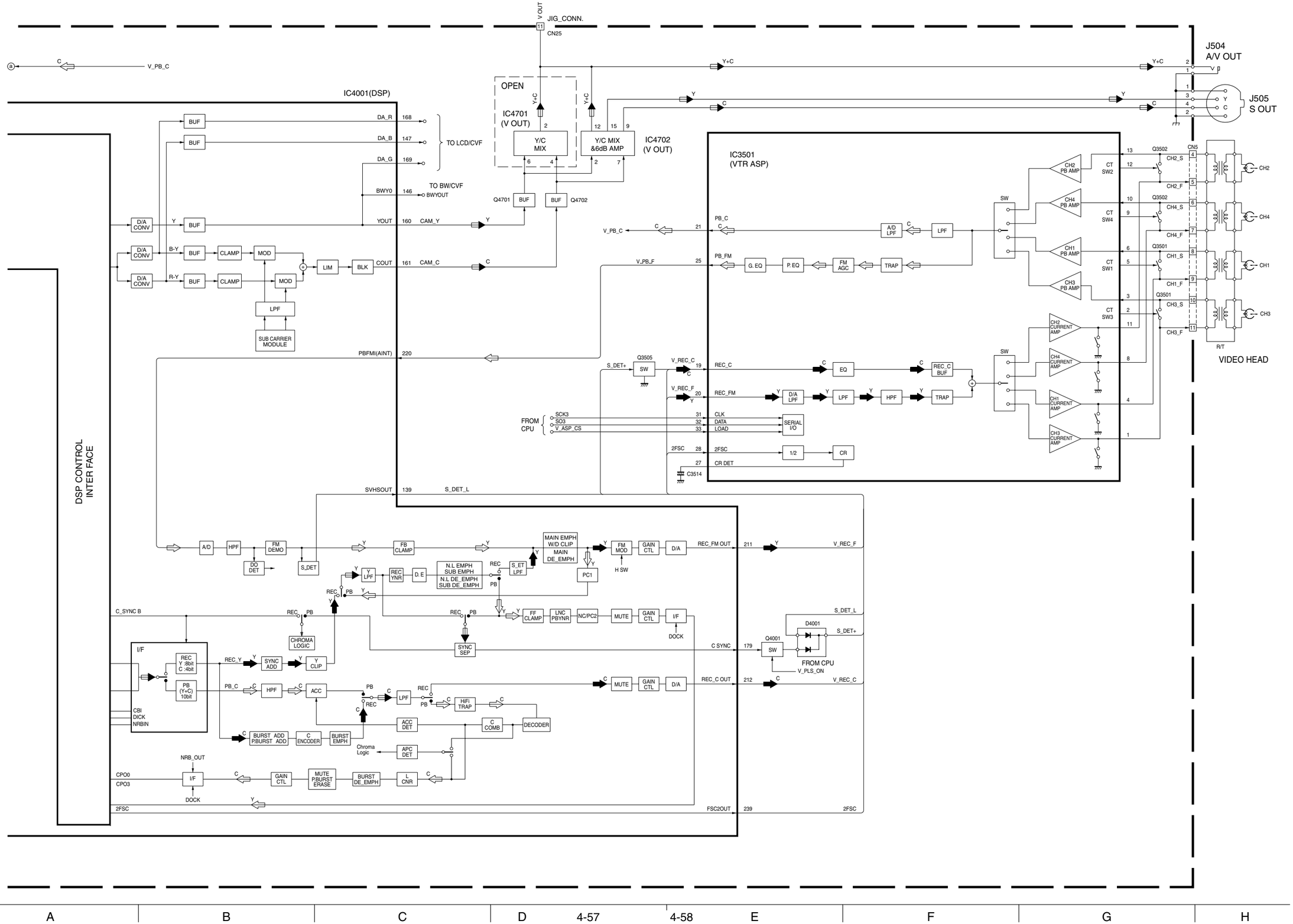
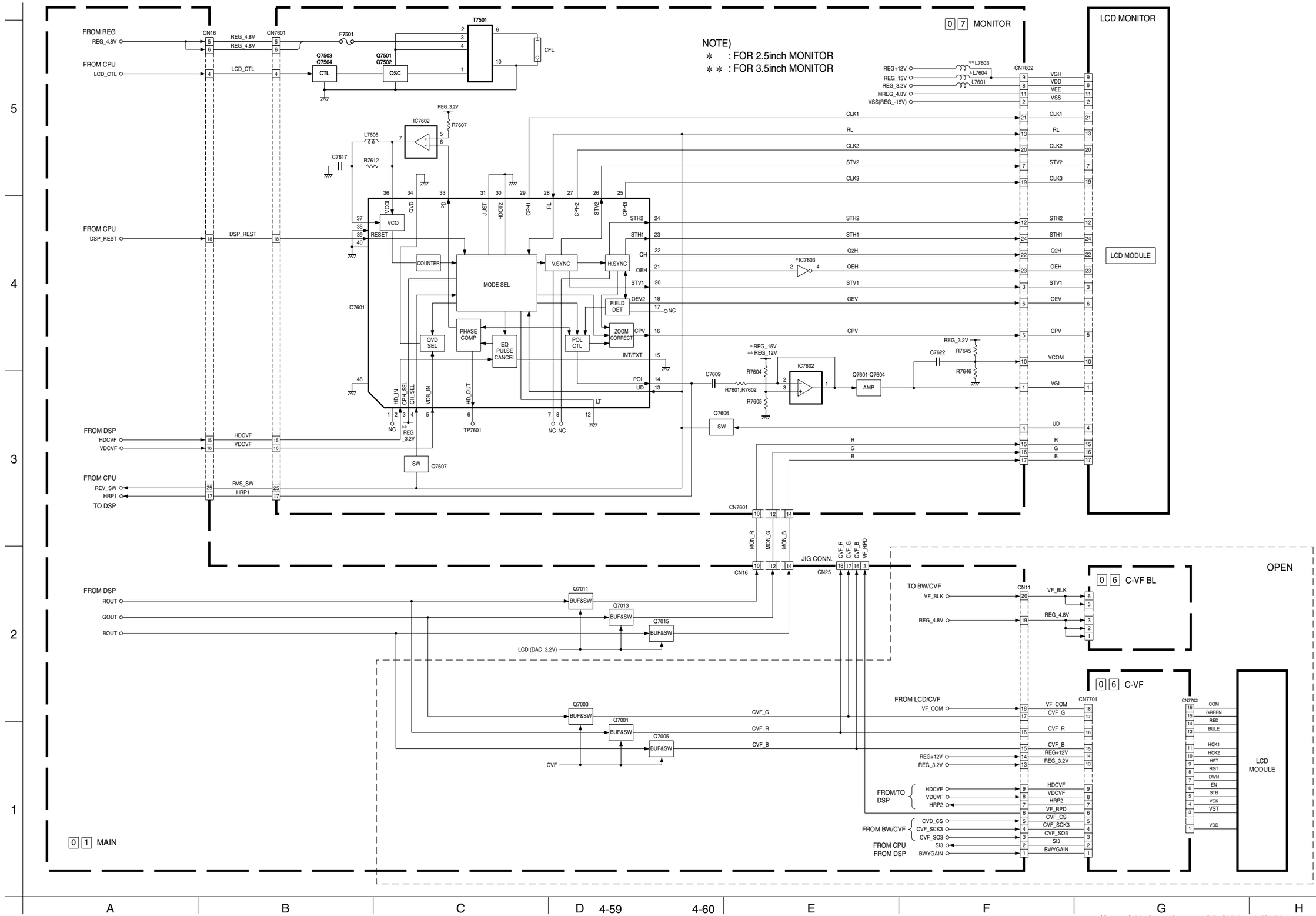


4.25 CPU/MDA SYSTEM BLOCK DIAGRAM



4.26 CAMERA AND Y/C SYSTEM BLOCK DIAGRAM




V OUT
JIG_CONN.
CN25
J504
A/V OUT
J505
S OUT
V_PB_C
IC4001(DSP)
OPEN
IC4701
(V OUT)
IC4702
(V OUT)
Y/C MIX
Y/C MIX
&6dB AMP
TO LCD/CVF
TO BW/CVF
BWYOUT
DA_R
DA_B
DA_G
BWY0
YOUT
COUT
CAM_Y
CAM_C
BUF
D/A CONV
CLAMP
MOD
LIM
BLK
LPF
SUB CARRIER MODULE
IC3501
(VTR ASP)
A/D LPF
G. EQ
P. EQ
FM AGC
TRAP
CH2 PB AMP
CH4 PB AMP
CH1 PB AMP
CH3 PB AMP
CT SW2
CT SW4
CT SW1
CT SW3
SW
Q3502
Q3501
CN5
CH2_S
CH2_F
CH4_S
CH4_F
CH1_S
CH1_F
CH3_S
CH3_F
R/T
VIDEO HEAD
CH2 CURRENT AMP
CH4 CURRENT AMP
CH1 CURRENT AMP
CH3 CURRENT AMP
PBFMI(AINT)
Q3505
S_DET+
V_REC_C
V_REC_F
REC_C
REC_FM
EQ
REC_C BUF
D/A LPF
HPF
FROM CPU
SCK3
SO3
V_ASP_CS
CLK
DATA
LOAD
SERIAL I/O
2FSC
1/2
CR
CR DET
C3514
SVHSOUT
S_DET_L
A/D
HPF
FM DEMO
DO DET
S_DET
FB CLAMP
MAIN EMPH W/D CLIP
MAIN DE_EMPH
FM MOD
H SW
GAIN CTL
D/A
REC_FM OUT
PC1
Y LPF
REC YNR
D. E
N.L EMPH SUB EMPH
N.L DE_EMPH SUB DE_EMPH
S_ET LPF
FF CLAMP
LNC PBYNR
NC/PC2
MUTE
I/F
DOCK
C_SYNC B
CHROMA LOGIC
SYNC SEP
C SYNC
D4001
Q4001
SW
FROM CPU
V_PLS_ON
I/F
REC Y :8bit C :4bit
PB (Y+C) 10bit
CBI
DICK
NRBIN
REC_Y
SYNC ADD
Y CLIP
PB_C
HPF
ACC
LPF
HiFi TRAP
C COMB
DECODER
ACC DET
APC DET
Chroma Logic
BURST ADD P.BURST ADD
C ENCODER
BURST EMPH
REC_C OUT
NRB_OUT
CPO0
CPO3
GAIN CTL
MUTE P.BURST ERASE
BURST DE_EMPH
L CNR
2FSC
FSC2OUT
DSP CONTROL
INTER FACE

4.27 MONITOR SYSTEM BLOCK DIAGRAM